DOCUMENT RESUME

ED 241 528 SP 024 027

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TITLE Teacher and the Science of Education. Proceedings of International Colloquy (Prague, Czechoslovakia, October 22-29, 1979).
INSTITUTION European Information Center of the Charles Univ. for Further Education of Teachers. Prague (Czechoslovakia).
PUB DATE 83
NOTE 180p.
PUB TYPE Collected Works - Conference Proceedings (021) -- Viewpoints (120) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC08 Plus Postage.
DESCRIPTORS *Cognitive Development; *Educational Research; *Educational Theories; *Faculty Development; *Foreign Countries; Fundamental Concepts; Higher Education; Individual Development; Information Utilization; Scientific Concepts; Social Systems; *Teacher Education; Teacher Improvement

ABSTRACT

A report is given of an international colloquy which offered the opportunity for representatives of 11 European countries to exchange views and experiences on further education and self-education of teachers. Discussions centered around five areas: (1) the science of education as a means of raising the effectiveness of the educational process and as part of the initial and further education of teachers; (2) teachers as users of scientific educational information, and scientific information for the teacher, its specific character, sources, availability, communicability, currency, costliness, and other properties; (3) teachers' attitudes toward educational sciences--the fight against empiricism in the teaching practice and scientific control of instruction; (4) acquiring knowledge of educational sciences during the teacher education process and the possibility of purposeful control of this process; and (5) teachers as co-authors of educational knowledge, generalization of educational practice as a source for the development of education sciences, and development of teachers' educational creativity. Included in the report are a list of participants, keynote and response papers, and final recommendations. (JD)

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Teacher and the Science of Education

Proceedings of International Colloquy

Prague, October 22–29, 1979

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SP 021 037

Charles University
Prague 1983

TEACHER AND THE SCIENCE OF EDUCATION

Proceedings of International Colloquy

Prague, October 22 - 29, 1979

Charles University, Prague, 1983

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I.

INTERNATIONAL COLLOQUY "THE TEACHER AND THE SCIENCE OF EDUCATION"

The International Colloquy: "The Teacher and the Science of Education" was held in Prague from October 22 - 26, 1979 with the participation of specialists from 11 countries of the European region and a representative of the Unesco Secretariat in Paris. The Colloquy was organized by the European Information Centre of Charles University for the Further Education of Teachers, with the participation of the Czechoslovak National Commission for Unesco, the Unesco Secretariat and in cooperation with the Central Institutes for the Education of Educational Personnel in Prague and in Bratislava. The International Colloquy was held under the auspices of Prof. Zdeněk Češka, Rector of Charles University in Prague and Corresponding Member of the Czechoslovak Academy of Sciences.

The Colloquy opened with speeches and addresses by Karel Čepička, Deputy Minister of Education of the Czech Socialist Republic, Bohuslav Sýkora, Vice-Rector of Charles University, Ladislav Halberštát, Chairman of the Czech Committee of the Trade Union of Workers in Education and Sciences Zuzana Bajcurová, Head of Delegation of the Ministry of Education of the Slovak Socialist Republic, Zdeněk Suchomel, representative of the Czechoslovak National Commission for Unesco and Liliane Berney, representative of the International Bureau of Education /Unesco, Geneva/.

The Opening Session of the Colloquy was Chaired by an Honorable Presidium whose members included:

Zuzana B a j c u r o v á , Head of Delegation of the Ministry of Education of the Slovak Socialist Republic,

Liliane B e r n e y , Representative of Unesco/IBE, Geneva

Karel Č e p i č k a , Deputy Minister of Education of the Czech Socialist Republic

Ladislav H a l b e r š t á t , Chairman of the Czech Committee of the Trade Union of Workers in Education and Science

Svetopluk P e t r á č e k , Director of the European Information Centre of Charles University for Further Education of Teachers, Vice-Dean of the Pedagogical Faculty of Charles University /Chairman/

Zdeněk S u c h o m e l , representative of the Czechoslovak National Commission for Unesco

Bohuslav S ý k o r a , Vice-Rector of Charles University

V.A. S l a s t e n i n , Member of the delegation of the USSR

Karel T m e j , Director, Central Institute for the Education of Educational Personnel, Prague.

The Colloquy was attended by the following honorable guests representing Czechoslovak State and Party bodies:

Oldřich F a b i á n , Director of the UN Information Centre in Prague

Helena J a š k o v á , representative of the Ministry of Education of the Czech Socialist Republic

Jiří M ř í č k a , Director of the Research Institute for Engineering Studies, Czech Technical University, Prague

Milan M o r á v e k , representative of the Department for Education of the Government Presidium of the Czechoslovak Socialist Republic

Milena R e i n i š o v á , representative of the Czechoslovak National Commission for Unesco

Miloslav S ý k o r a , representative of the Department for Education and Science of the Central Committee of the Communist Party of Czechoslovakia.

The individual sessions of the Colloquy were alternately moderated by the following participants:

Hans B e r g e r , GDR

W.B. D o c k r e l l , UK

Werner K i r s c h , GDR

Janina M a c i a s z e k , Polish PR

Barica Marentič-Požarnik, SFRY

S. M a s č a n , USSR

Svatopluk P e t r á č e k , ČSSR

V.A. S l a s t e n i n , USSR

Dana T o l l i n g e r o v á , ČSSR

Ante V u k a s o v i č , SFRY

The discussions on the individual subject areas were summed up by the following Rapporteurs:

Ladislav Ď u r i č , Polish PR
Manfred H a a k , GDR
Boleslaw H o r n o w s k i , Polish PR
Gilbert M e t r a u x , Switzerland
Endre Z i b o l e n , Hungarian PR

The General Rapporteur and Chairman of the Commission for Drafting the Final Recommendation was Dana Tollingerová. The conference languages of the Colloquy were Czech, Slovak, Russian, German and English.

The International Colloquy was held on the premises of the Central Club of Education and Science of the Czechoslovak Revolutionary Trade Union Movement, Prague 1, Na příkopě 10.

The Colloquy was attended by 58 experts in the capacity of participants /of this 30 from abroad and 28 from the Czechoslovak Socialist Republic/ and 16 experts in the capacity of observers.

The foreign participants came from the following countries: USSR /5/, Hungarian PR /4/, Polish PR /3/, Bulgarian PR /6/, GDR /6/, Great Britain /2/, Switzerland /2/, France /1/, SFRY /2/. For a detailed list of participants see Supplement A/1.

The Colloquy was prepared in the spirit of the Final Act of the 1975 Helsinki Conference on Security and Cooperation in Europe. It contributed to mutual understanding and confidence among nations with different social systems by giving them the opportunity to exchange views and experiences with the further education and self-education of teachers in the theoretical fields of the educational sciences. It created conditions for the further and more consistent exchange of educational knowledge and information between experts from the individual countries of the European region and for improving the in-service

education of teachers by independent work with educational information while fully respecting the specificities of the educational and social systems in the individual countries.

The Colloquy followed up on the results and respected the recommendations of previous international actions, namely the 36th and 27th Unesco Conferences on Education /Geneva 1977 and 1979/, the international scientific conference of educationalists from the socialist countries concerning the teacher /Warsaw 1977/, the results of national conferences of teachers which were held in the European countries of the socialist community in the years 1978 - 1979 and last but not least on the final document of the round-table discussion on the development of education in the world up to the year 2000 organized by the European Information Centre of Charles University for Further Education of Teachers in Prague with the participation of representatives of the Unesco Secretariat in May 1979.

In the narrow sense of the word the mission of the Colloquy was to give the participants the opportunity to exchange views on independent work with educational information as one of the highly effective forms of the pre-service and in-service education of teachers. The Colloquy also focused on the evaluation of the possibilities of regional cooperation in this field.

The keynote papers of the International Colloquy corresponded to these specialized objectives and the five day session was subordinated to these.

The Working Session was opened by the keynote paper presented by Svatopluk Petráček on the subject "The teacher and the educational sciences", formulating the basic postulates of the Colloquy /see Supplement B/1/.

The keynote paper was completed by the support paper presented by K. Tmej "Education of Teachers as the Subject of Research" which presented a detailed information on the ideological postulates and results of the scientific research of the teacher, his pre-service and in-service education as it is

implemented under the K. Tmej's guidance within the plan of research of the sector of education. The second support paper by presented by V.A. Slastenin and dealt with "Educational science and the forming of the teacher's creative attitude" The full versions of both papers are published in supplements L/2, B/3/.

On the agenda of the Colloquy were free and controlled discussions and the adoption of conclusions related to the following five subject areas:

1. The science of education as means of raising the effectiveness of the educational process and as part of the initial and further education of teachers.

2. The teacher as the user of the scientific educational information. Scientific information for the teacher, its specific character, sources, availability, communicability, currency, costliness and other properties.

3. The teacher's attitude towards educational sciences. The fight against empirism in teaching practice. The scientific control of instruction.

4. Acquising the acquisition of the knowledge of educational sciences in the process of the education and self-education of teachers.

5. The teacher as the co-author of educational knowledge. The generalization of the best experience of educational practice as the source of the development of educational sciences. Development of the educational creativity of teachers.

In their evaluation of the proceedings and results of the international Colloquy made in form of oral communications the participants agreed that all parts of the Colloquy agenda had a high scientific standard, a dignified course, that it had met the set objectives and had initiated and stimulated the solution of the discussed problems. In this connection the participants positively evaluated the working methods of the Colloquy,

namely their diversity and the opportunity given them for an open discussion. Well proven was work in small groups focused on set subjects. The organizers were thanked for their successful and selfless work. The content of the Colloquy the topicality of the discussed subjects was highly appreciated. The implementation of educational theory in educational practice was described by all participants as being one of the key questions of the further development of educational systems. The participants expressed the view that the Colloquy had been a contribution by stimulating very useful further international co-operation between interested experts in elaborating and putting out specialized publications.

The Colloquy closed with the presentation of the Final Recommendations by the General Rapporteur. The Recommendations were specified and completed and then unanimously approved by the participants /for complete wording see Supplement D/1/.

The five day proceedings of the Colloquy were held in an atmosphere of mutual understanding and friendly cooperation.

II

IDEOLOGICAL AND THEORETICAL ORIENTATION OF INTERNATIONAL COLLOQUY AS EXPRESSED BY THE MAIN PAPERS

The keynote paper presented by Svatopluk Petráček: "The teacher and the science of education" expressed the ideological and theoretical orientation of the international Colloquy /see Supplement B/1/.

In his paper the author stated that the significance of the educational sciences for teachers is increasing with the further deepening of scientific and technical development, i.e., the process which results in the abundance of new educational and other scientific information overcoming knowledge which had so far been considered as relevant. The teacher feels the need to continuously educate himself and to maintain his qualification standard at the level required by current development; on the other hand society requires of him that the standard of his educational mastery be adequate to the needs of the development of education and of the educational system. In practice this means that as during the period of his initial training as well as throughout his whole life the teacher tries to acquire and create new scientific and educational information and strives to apply this information to his educational practice. This seeking and creative activity is implemented by the teacher's participation in various organized activities oriented to further education of teachers, as well as through purposeful, purpose-oriented and systematic self-education. A number of preconditions have to be created to make this creative activity effective.

It is also necessary to enable the teacher to participate in the work of a team which is resolving a selected scientific or educational problem, to require of the teacher to implement his self-education according to a rationally compiled plan containing all indispensable components /themes, datelines, the literature, etc./, to lead the teacher to make systematic and

allround analyses of achievements and shortcomings in the organization of the educational process, to secure for the teacher's self-education adequate material equipment /a library with abundance of relevant literature, teaching aids and educational technology, equipment for resources and methodical centres, etc./, to organize systematic and purposeful supervision of the self-education of teachers. In this connection the author of the keynote paper put forward the question of the kind of educational information is required by the teacher from the educational sciences and in the creation of what kind of educational information the teacher should take part, namely in the process of his self-education.

First of all the author of the keynote paper expressed his conviction that educational information should mainly be such which deals with the relations between society, education and pedagogy, i.e., mainly knowledge of the Marxist-Leninist theory of education, i.e., the problem area of the class character of education, the education of an allround and harmoniously developed socialist personality, the formation of the scientific world opinion and communist morale, education in the collective and through the collective and familiarization with the criticism of current bourgeois theories of education. Another important aspect is the familiarization of teachers with the basic principles of educational policy and the aims of communist education, the problems of the basic specificities of individual development, i.e., knowledge of the relationship between social conditions and individual developmept, types of activities, individual psychical development and its basic stages, the knowledge of the general laws of the educational process, the subject of pedagogy, the fundamental pedagogical categories, the system of educational sciences and pedagogical methodology.

The second important group of educational information is such which is related to the educational process. The author of the keynote address discussed the problems of education for communist awareness and behaviour, the whole problem area of the content of communist education, the problems of the education

of the personality in the collective, the problem area of the methods of communist education and finally the problems of the interaction of the educational forces of society in the process of the communist education of youth.

The third group of information is such educational information which is related to the process of instruction. This is mainly related to questions linked with the substance of teaching in a socialist schook, be it the problem area of the aims of instruction, the generel character of instruction or questions related to didactic principles, with the content of instruction, the activity of the teacher and the pupils in the process of instruction, the organization of instruction and finally questions related to the problem area of respecting the individual specificities of the pupils in the teaching process.

The fourth group of educational information is such which is related to the problem area of the administration and supervision of the educational process, its organization in the school and to the role of the educationalists. Basically this information concerns questions related to the supervision of school collectives, the supervision of the educational and teaching process, out-of-school work and questions related to cooperation with various educational institutions and organizations in society. This problem area will also include information related to the creation of fevourable conditions for the educational process. Separate attention will be merited by educational information related to the teacher, be it questicns of the pedagogical profession, the mission of the teacher in schools of different types and levels, the problem area of the creative character of the activity of the teacher, the pre-service and in-service education of the teacher.

The fifth and last group of information comprises such educational information which is related to the problem area of the development of the unified socialist educational system.

This is mainly information which is related to educational system in other countries, namely in the countries of the socialist community, information on the socio-economic conditions of the development of the individual educational systems, their structure, the prospects of their further development. Significant is educational information which critically evaluates the character of the non-socialist educational systems.

The author of the keynote address pointed out that for the teacher the psychological and pedagogical problem is not only to become acquainted with knowledge produced by educational science but that to accept this information in confrontation with practice, to absorb it in his qualification and on the basis of his practical experience to use this information as feedback to influence the activity of those who are involved in educational sciences.

All that is new in the educational system does not develop by itself but organically develops from the current practice of education and teaching. Educational sciences are therefore not only orientated to the research of what exists in the schools but to all that can raise practice to a higher level. The fundamental significance of educational sciences is to contribute to the deeper cognition of the substance of education and the laws of the educational process. With this knowledge it is then possible to effectively control and further develop this process. Only educational science which is not burdened with practicism and has been exempted from drab routine, is able to develop a theory which will antecede practice. And it is here, emphasises the author, that the role of the teacher as the user of knowledge of educational science and the verifier of this knowledge in practice comes to the fore. It is here that the role of the teacher stands out as the factor who implements the results of theoretical research which has been conducted fully respecting the methodology of dialectical materialism. The teacher is obligated to do this by the social conditionality of education and teaching.

In the first support paper "The Education of Teachers as the Object of Research" /see Supplement B/2/. K. Tmej presented a characteristic of the current approach to the study of the problem area of teacher training in the Czechoslovak Socialist Republic and indicated certain prospective trends in this field of education. He pointed out that this was a very complex methodological problem area whose complex and scientifically founded concept Marxist pedagogical theory and practice has gradually developed. He also indicated further ways of resolving the current state of the given problem area.

He proceeded from the fact that teacher education represents an extremely complex educational system both in its institutional organizational form and in its content and pedagogical and methodological structure which in the conditions of the construction of an advanced socialist society, namely in the period of the scientific and technical revolution is undergoing profound changes in its inner and outer structure.

He underlined that the dynamic development of teacher education within the framework of the Czechoslovak educational system anteceded the development of pedagogical theory which in the Czechoslovak Socialist Republic began constituting itself purposefully on the principles of Marxist-Leninist philosophy and theory only in the 1950's.

The support paper documented that the endeavour for the most complex grasping of the subject of the study of the problem area of teacher education underwent a complicated development in which it was necessary to solve a wide range of questions not only of methodological character, such as the application of systems and interdisciplinary approaches, etc., but also questions related to organization and personnel. Despite persisting difficulties the current state indicates that we are being more successful in understanding and resolving the system of teacher education as a problem area with a rich inner structure and with external determinants acting on the dynamics of its changes.

In the second support paper "Educational Science and the Formating of the Creative Attitude of the Teacher" see Supplement B/3/. V.A.Slastenin showed how the project of pedagogical work which does not as yet exist in reality but is only an ideal project is being built as the result of a whole complex of scientific research.

The teacher receives this project in form of syllabi and curricula, text-books, various recommendations, etc. The project is gradually implemented and a new pedagogical reality which originates in harmony with this project again becomes the subject of research. We thus obtain a closed cycle: "Science - practice - science". Scientific knowledge which has originated in this cycle on the one hand serves to clarify what is taking place in the pedagogical process, i.e., to reveal its substance and on the other hand determines certain pedagogical procedures.

In the teacher's work are linked all threads running from pedagogical science, in it is materialized all knowledge acquired by this science.

The personality of the educationalist as the active creator and transformer, said V.A. Slastenin, should incorporate not only the ability to simply imitate the work of good teachers but also to become acquainted with the substance of the pedagogical process, to find its deep foundations. Pedagogical science frees each individual teacher of the necessity of carrying out hopeless work, i.e., to repeat the entire experience acquired by the pedagogical and cognitive activity of mankind. The results of educational science, however, only indicate the general and statistically routine road towards attaining the respective goals. The teacher should use these results in concrete unique pedagogical situations, he should become the creator of the pedagogical process and through this process the creator of the spiritual world of his pupils.

III

DISCUSSION AND DELIBERATIONS OF INTERNATIONAL COLLOQUY ON PROBLEM AREAS AND CONCLUSIONS THERETO

1st Problem Area: The Science of Education as a Means of Raising the Effectiveness of the Educational Process and as Part of the Initial and Further Education of Teachers.

The discussion concerning the 1st problem area was opened by the keynote paper presented by M. Kořínek /Czechoslovakia/ and was complemented by support papers presented by A. Vukasović /SFRY/ and B.V. Biryukov /USSR/. Taking the floor in the discussion and presenting written communications were E. Zibolen /Hungarian PR/, W. Kirsch /GDR/ and S. Krawcewicz /Polish PR/.

M. Kořínek /CSSR/ in his keynote paper: "The role of the science of education in raising the effectiveness of the educational activities of teachers" dealt with the following aspects of the problem area:

- what is the attained level of the development of educational sciences,
- how are the results of pedagogical cognition reflected in the improvement of the educational work of teachers,
- what are the possibilities of improvement in this field.

In his paper he proceeded mainly from the situation in Czechoslovakia, possibly from a similar situation prevailing in other socialist countries.

As the most important factor in the attained level of the development of the educational sciences the author considers the result of the work of many Czechoslovak educationalists in recent years who took part in the elaboration of the scientific documents for the Project of the Further Development of the Czechoslovak Educational System and for the concept of a unified and comprehensive system of communist education.

Within this framework educational science is oriented mainly to the verification of existing documents for the implementation of the system of education at the individual levels. This concerns syllabi, curricula, text-books and other methodological materials which are the instruments of the introduction of the new concept of education in the Czechoslovak Socialist Republic which is gradually being implemented since 1976.

As concerns the reflection of pedagogical cognition on the improvement of the educational work of teachers the author pointed out that scientific institutions in the field of the educational sciences have already made available a great amount of knowledge and many verified documents which can contribute to raising the level of educational work in schools and in other educational institutions.

It cannot, however, be said that the results of pedagogical cognition are fully used in drafting educational norms and that they are fully accepted and implemented in practice.

This phenomenon has many causes, i.e., subjective and objective.

The objective causes include first of all the specific nature of educational knowledge, i.e., knowledge reflecting the recognized laws of pedagogical phenomena and processes in the scientific laws of pedagogy. These laws reflect the laws of education as a complex social phenomenon and make possible the aware supervision of educational activity. Their diverse levels of generality correspond to the diverse levels of the scientific control of educational activity.

The use of recognized objective laws depends to a considerable extent on the subjective factor, i.e., on the teacher, his attitudes, qualification, mastery and on the conditions of his work.

The author believes that a significant improvement in this field can be attained in two ways depending on the character of

the causes of the shortcomings. The former concerns the orientation of educational science, the latter is oriented to the transmission of the results of educational science to the teacher and their practical implementation. Both orientations are related to the specification of the cycle: science - development - implementation in the field of the educational sciences.

The factor of decisive importance for the concept and implementation of this cycle is the orientation of the thematic area of basic and applied research. Also very important is the concept of this research with regard to the unity of theory and practice.

The teacher and instructor can also use the results of partial research projects, much more valuable are, however, synthetic studies which allow him to master the structure of education at the given level, in the given institution, etc. In this respect educational experiments aimed at verifying theoretical hypotheses and models of education are specially valuable from the point of view of the project of the further development of the Czechoslovak educational system. They are being carried out at experimental schools which then become the centres for spreading verified procedures on a larger scale.

The implementation of scientific knowledge in the field of education is from the greater part made possible through policy, possibly through educational policy. The socialist society which was established and is developing on the basis of scientific theory has all pre-requisites to allow socialist education to develop on the basis of educational theory.

The results of pedagogical knowledge enter the pedagogical process primarily through its application to the concept formation of the respective school level, to the system of documents and methodical materials, text-books and teaching and learning aids. They directly reach the teacher and the instructor through the system of the pre-service and in-service education of educational personnel.

In conclusion the author states that the rapid development of educational sciences requires of every qualified worker to continuously update his knowledge to the level of the current development of the science. Life-long education of educational personnel is therefore required. In the Czechoslovak Socialist Republic this system includes the post-graduate study of teachers at institutions of higher education and other forms of education provided by regional pedagogical institutes and district pedagogical centres.

A. Vukasović /SFRY/. In the first support paper related to the problem area: "Educational science - educational qualification - the effectiveness of the educational process" the author pointed out that educational work is preconditioned by the accurate answers to two basic questions: "Why? and How? To be able to answer the first question the teacher has to know the specialized properties and educational qualities of the subject, i.e., the discipline which he teaches in the school. The correct answer to the second question is provided by his pedagogical knowledge which form the teacher's pedagogical culture. Without pedagogical knowledge and skills the teacher cannot correctly and successfully fulfil his professional tasks.

Educational science is the foundation of educational qualification and the basic precondition of effective educational activity. Every teacher must therefore have to have a knowledge not only of his subject but also has to have theoretical and practical pedagogical training which is part of his professional education.

In the implementation of tasks linked with education the teachers first of all turn to the rational traits of psychological life; the rearing tasks mainly affect the emotional and volitional traits of the personality. The fulfilment of the latter tasks is therefore more complicated, laborious and long-term. It assumes not only the formation of a certain awareness but also the formation of a conviction and a world opinion, the formation of positive qualities and character traits of the personality, human qualities, which secure the humane and socially

positive behaviour and activities of the subject. Such educational work assumes the reliable knowledge of a certain field of science and the aware acquisition of the scientific world opinion; it requires a good knowledge of didactics and methods as well as a good knowledge of ethical and aesthetic values, the knowledge of syllabi and the specificity and complexity of the educational process and the methodology of the educational activity concerned.

The author pointed to the serious gap in the system of the initial education of intending teachers for the successful fulfilment of educational tasks. Instruction is prevalently orientated to the acquisition of knowledge and to much lesser extent to the development of mental abilities and pedagogical thinking, to the solution of creative plans and the acquisition of the culture of mental work, to training for independent work and self-education. In instruction reproductive tasks prevail over productive tasks. The teachers' inadequate interest and readiness is manifested for the independent study of pedagogical literature.

In order to make the pedagogical training of teachers, which is one of the most important prerequisites for improving the quality of instruction and educational work in secondary schools and institutions of higher education more progressive and mode modern, a centre for raising pedagogical qualifications and for pedagogical research was established within the framework of Zagreb University in 1971.

At the close of his paper the author re-emphasised that pedagogical theory must not underestimate positive practical experience. On the other hand it is evident that the improvement of practical educational work requires the knowledge and application of pedagogical knowledge and laws.

The second support paper related to the said problem area was by B.V. Biryukov /USSR/ and was devoted to the theme: "The ideas and means of cybernetics and logic as part of the scientific fundamentals of the educational process" /the support paper was not handed in in writing/.

E. Zibolen /Hungarian PR/ in his communication "Educational science and the effectiveness of the educational process" proceeded from the idea of the indivisible linkage between educational science and the effectiveness of the educational process on the one hand and the relationship between educational science and educational reality on the other.

Simplifying somewhat it may be said that as concerns this relationship in Hungary in the past there have been two variants: the training of intending teachers for national schools in teacher seminars and the education of intending teachers at institutions of higher education. This probably corresponded to the situation in the other European countries and in was probably reflected the difference in the social position of the teacher of the national school and the "scientific teacher", especially the grammar school teacher.

The profound difference between the education of the said two types of teachers corresponded to the position which the two school levels occupied in the educational system. They had basically differing tasks in the socialization of pupils. Their common characteristic was the sharp separation of theory and practice.

The first newly established institutions for the specialized training of intending teachers after the second world war, i.e., the College of Education, initially pursued the aim of training its students for work at lower school levels and allowing them to teach certain subjects at upper levels of the educational systems. For this reason it was assumed that the teacher will need an equal amount of theoretical and practical training.

In later years, thanks to the achievements of the socialist transformation of society and of the socialist cultural revolution a linkage was established between theory and practice based on the equilibrium of these two factors in educational science and in teacher training. At present university students

of the teaching profession are provided with lectures in pedagogy and practical teacher training up to the final teaching practice in the fifth year of study. A similar parallel process takes place at colleges of education and in courses for intending teachers for the lower school level the two factors are linked even closer. At present teachers at schools training for the teaching profession in Hungary mostly come from the ranks of those who have acquired an equal and balanced theoretical and practical education.

It is evident, said the author of this paper in conclusion, that the study period /up to the diploma award/ should be conceived as the introductory and specially intensive part of training for the future profession. With this approach the educationalist of the future may proceed from the state of professional knowledge acquired in an elementary manner to the desirable level of pedagogically effective mastery.

W. Kirsch /GDR/ in his communication: "Methodological problems of the relations between theory and practice in the pedagogical training of teachers" stated that in the German Democratic Republic all teachers and instructors at all levels of the educational system, ranging from nursery schools, general educational polytechnical secondary schools, extended secondary schools and all special education institutions have attained the complete educational level required for the respective school.

The high standard of the specialized training of teachers and instructors ensues mainly from the consistent implementation of basic principles, such as the unity of high scientific education and socialist rearing, the unity of instruction and research, the development of independent creative study and the unity of theory and practice.

The author then dealt with certain methodological questions concerning the relations between theory and practice in the specialized training of qualified teachers.

The author expressed his conviction that in the advanced concept practice is in a decisive manner influenced by the standard of education which is always historically concrete. Its transformation into material activity aimed at changing objective reality is indirectly influenced by pedagogy. Pedagogical activity is an indirect material activity because it changes man himself. The development of man takes place with the increasing contribution of pedagogy.

In determining the aspects of the influence of the principle of the unity of theory and practice the author proceeds from the necessity of a more accurate definition of the fields of practice /practical fields/ and theory, knowledge and experience which reflect them. As concerns the study of the teaching profession the author distinguishes four possible approaches.

First of all education and training in teacher training institutes may be considered as the field of practice. Theory corresponding to this process belongs to the level of higher education pedagogy. Thus the pedagogical process at higher education level becomes the principal field of research oriented to raising the effectiveness and further developing teacher education, as well as the theory of higher education pedagogy.

The second aspect of the action of the principle of theory and practice on teacher education is specific and to a considerable extent decisive for the specialized education of teachers for general education schools.

The third aspect concerns the involvement of students of the teaching profession in social practice.

The fourth aspect of the action of the principle of the unity of theory and practice, i.e., the involvement of students in specialized research appears to be specially significant in the implementation of the requirement that teaching activity should increasingly be carried out as a scientific activity.

S. Krawcewicz /Polish PR/ in his communication "Possibilities of and limitations to the use of educational sciences in practice" conceived the subject area in a broad context. In the first part of the communication the author emphasised and justified the strengthening general conviction about the impact of the educational sciences on the development and functioning of the educational system.

Educational sciences are becoming an important component of the educational system which ever more extensively and with ever more explicit results provide information which condition the development of this system, contribute to the development of all specializations and all levels of the educational system, to an increasing extent are becoming an inner force, a natural developmental factor of educational processes, and their linkage with the educational system is becoming firmer. It is necessary that the educational sciences should complement the knowledge of educational personnel by providing them with such data which they need at different levels and different fields of their educational and pedagogical activity.

The educational sciences are penetrating the educational system more completely and more profoundly and are increasingly influencing its development and functioning in different fields and at different levels.

The author pointed out that there do, however, appear contradicting views of the role of pedagogical research in the development of the school system. Basically teachers point out that the results of educational research are not always effective in practice that they are not linked with the actual needs of the school. On the other hand scientific workers have often expressed the view that the achievements of educational sciences are not being adequately implemented by teachers at school level. These facts show that the introduction of the results of educational sciences into the school system is not a smooth process that it will not proceed without tension and conflicts.

In the second part of his communication the author solves certain significant aspects of the linkage of educational research and educational practice at school level.

In the third part of his communication the author analyses the occurrence of misunderstandings between science and everyday experience in the development of educational research and the introduction of its results into practice.

The fourth part of the communication deals with the observance of certain proportions between basic and applied research which is an important condition of the development of educational sciences.

The fifth part of the communication devotes attention to the barrier which the author believes renders difficult the development and application of the educational sciences in practice and which he terms "the conflict of expectation". Basically he is concerned with situations in which practitioners or theoreticians in various instances and connections in their responses and approaches do not meet each other's expectations.

In the final and sixth part of the paper the author seeks the answer to the question of how to distinguish possibilities and to restrict barriers in the development and use of the practical implementation of the results of pedagogical sciences.

The following conclusions ensued from the papers and communications presented in relation to the 1st subject area:

In raising the effectiveness of the work of teachers in the educational process great attention should be devoted to the relationships between society and the educational process.

Educational aims can only be correctly defined if we proceed from existing social processes and if we involve the school in the social changes which have been or are being implemented or which are bound to take place.

The teacher plays the decisive role in the educational process and in consequence the life-long education of teachers is an important social demand.

The teacher is linked with scientific activity in three different ways, i.e.,

- he mediates the results of scientific research to the pupils and students in the form of the content of education and instruction;
- he uses the results of scientific research in the process of education and instruction for implementing this process on a scientific basis;
- he himself takes part in the development of scientific knowledge by generalizing his experience in direct participation in research.

Proceeding from the fact that educational practice is an inexhaustible source of theoretical knowledge the further development of the educational sciences is possible only on the basis of the development of mutual relations between theory and practice. This primarily means that educational sciences should be orientated to the problems of educational practice.

The use and application of scientific knowledge in educational practice requires that the teacher be systematically trained and that in this respect he should further deepen his qualification. This is the fundamental task of his permanent education which should be conceived as the unity of instruction and education implemented in the process of life-long education.

In the process of teacher education a closer linkage should be established between theory and practice such as will be manifested especially in the character of education, aimed at mastering the basic profession. This applies both to normative educational documentation and to the organizational forms of education as well as to the close linkage between the student teacher with school practive throughout the period of initial teacher training.

The teacher is simultaneously the creator and the user of educational sciences and contributes to their constitution and development. Without his contribution educational sciences would lose their purposefulness and practical impact.

The discussion revealed a number of problems which should further be studied, such as:

- the rapid and active introduction of the results of research into school practice and the use of progressive pedagogical experience,
- the deepening of the unity of pedagogical theory and practice, fully respecting the differentiated needs of the teachers,
- the complex approach to the study of the educational process,
- the further development of the educational sciences with regard to the results of other scientific disciplines, e.g., logic and cybernetics,
- the complex implementation of the principle of the unity of theory and practice in the process of the pre-service and in-service education of teachers,
- the deepening of the pedagogical education of teachers in higher education with the aim of raising the effectiveness of pre-service and in-service teacher education.

Numeroud suggestions were put forward for further activity in this field, e.g.:

- to establish a group of specialists from different European countries which under the guidance of the European Information

Centre of Charles University for the Further Education of Teachers would study experience with the involvement of teachers in research work and in other forms of work in which is implemented the inter-relation of theor and practice,

- in the course of 2 - 3 years to hold a colloquy to evaluate the results of this comparative study,

- to ask the European Information Centre of Charles University for the Further Education of Teachers to publish a bibliography related to the above mentioned subject areas.

2nd problem area: The Teacher as the User of the Scientific Educational Information, Scientific Information for the Teacher, its Specific Character, Sources, Availability, Communicability, Currency, Costliness and other Properties.

The discussion on the second problem area was opened by the keynote paper presented by H. Procházková /CSSR/, the support papers were presented by J. Hůrka /CSSR/ and by B. Marentič-Požarnik /SFRY/. Taking the floor in the discussion /communications presented in writing/ were A. Merta /CSSR/, F. Kábele /CSSR/, J. Koplík /CSSR/, J. Hradilová /CSSR/. E. Jouen /France/, S.T. Bacheva /Bulgarian PR/, R. Klečánková /CSSR/, I. Wiesenberger /CSSR/ and S. Petráček /CSSR/.

H. Procházková /CSSR/ in her keynote paper to the problem area "The teacher as the user of scientific educational information" defined the basic aspects of this problem area, i.e., the nature of objective barriers to the rapid and effective introduction of educational information into educational practice through the medium of teachers, the basic subject areas of the problem area, their possible solution.

The author of the keynote paper stated that the problems related to the relationships between information and education are being dealt with on an international scale by both information science and pedagogy. The broad acquisition and use of possibilities provided by information systems are mainly in the hands of those who are educating the young generations.

The information needs of educationalists, the author said, vary considerably in form and content with regard to the school type and level, the functional competence of the educational workers and the subjects of instruction of fields of study. In relation to the qualification profile of the teachers their information requirements are formed within the framework of three components of their education, i.e., ideological and political /social sciences/, education and psychology and subject methodology. Educational information contains not only knowledge acquired by the educational sciences but also by their related

scientific disciplines whose methodological or application apparatus they use for becoming familar with or influencing the phenomena and processes taking place within the framework of educational systems and in their neighbourhood and for setting aims, programmes, establishing institutions, determining procedures, means and the actual implementation of educational work.

The information needs of educational personnel are thus demanding and their satisfaction belongs among the primary interests in the building of educational information systems in the implementation of the further development of educational systems and as users of educational information are a priority problem in the development of information services and yet one that is difficult to resolve.

The author went on to state that as concerns the effect of the actual use of information services in the field of education surveys have generally shown a relatively low level of the use of educational information by teachers. These surveys, however, make it possible to assess the high potential ability of teachers to accept and actively use information for raising their qualifications and the effectiveness of their educational work. The principal causes of this contradiction have been found to be:

a/ from the part of educational systems: the inadequate preservice and in-service training of teachers in the field of information methodology,

b/ from the part of information systems: the non-specifically profiled and inadequately selective methods of information accessing.

With regard to the size and inner differentiation of the user population from the ranks of teachers it is evidently necessary to control the flow of information through the territorial educational system, especially through its methodological institutions.

The author also believes that the system of the pre-service and in-service education of teachers is a significant factor in their effective work with scientific information, and the application of this information to their educational work. The Project of the Further Development of the Czechoslovak Educational System which has gradually been implemented since the year 1977 incorporates the principles of teacher education whose projection into the sphere of information needs fully agrees with current trends in information science.

The importance of information in the specialization and profession of the teacher is the subject of research carried out within the joint research project of the socialist countries in the field of educational information. One of its significant themes: "The role of scientific information in raising the teacher qualifications" is being solved by the Polish People's Republic in cooperation with the Bulgarian People's Republic.

The concept of the information user includes not only the use of information, its evaluation, transformation and application but also the creation and communication of new information.

The role of the educationalist as the participant in the controlled process of the communication of educational information is still, however, in practice mostly conceived passively. The author states that information needs are formulated as queries proving the inadequate knowledge of the user's own information environment, the structure of information files, used selection languages and existing systems of institutionalized information services.

The RandD base of this urgent social problem area in the field of education, said the author, cannot do without its own theoretical background. In recent years educational information science is becoming established as a special discipline of general information science and as a marginal field of the educational sciences, i.e., as was the case with educational psychology in the past.

J. Hůrka /CSSR/ in the first support paper to the problem area "International cooperation in the field of educational information" pointed out that the continuous exchange of educational information, be it on a national or international scale, creates conditions for the significant influencing of innovation processes in the development of national systems of education.

The cooperation is developing between information institutions within the countries of the Council of Mutual Economic Assistance. Cooperation between these countries is currently based on bilateral agreements and on the conclusions of negotiations between directors of educational information institutions of the countries of the Council of Mutual Economic Assistance. It appears that this consultative and coordinating body is a useful institution for developing multilateral cooperation and for promoting a unified procedure towards other international information systems and programmes. Currently the exchange is successfully developing of publications and documents, a joint system is being developed of data classification, work has significantly advanced in the preparion of educational subject categories and thesaurus. Work has successfully been completed on compiling the second version of the multi-lingual educational dictionary.

Cooperation is under way on a comparative study of the organization of the system of educational information in the socialist countries. Positive results have been reached in the solution of questions related to the compilation of abstract journals which are being published in two series, i.e., review and subject journals.

The author cited several examples of interesting subject areas which were studied in the years 1979 and 1980, e.g.:

- organization, planning and forecasting the development of people's education /under the aegis of the USSR/,
- the development of the personality of the pupil /under the aegis of the Hungarian PR/,

- polytechnical education /under the aegis of the Czechoslovak Socialist Republic/.

Cooperation in the field of educational information is also successfully developing within the framework of UNESCO. Contributing to the positive results of this cooperation in recent years have been international EDICO Colloquys which are focused on the problems of the construction of information systems for the needs of educational systems.

B. Marentič-Požarnik /SFRY/ in the second support paper related to: "Educational: the source of educational information for the teacher" introduced into the discussion three inter-related themes, i.e.:

- the assumed long-term influence of educational literature on the teacher,
- the main types of educational literature for teachers,
- the context in which reading educational literature may have or has desirable impact.

As concerns the assumed impact of educational literature she said that the most immediate influence and one which is most frequently assumed is that reading educational literature influences the method of instruction, perfects the teacher and has an "activating" influence on the teacher.

Usually the influence is indirect. Educational literature may gradually influence the way of the teacher's thinking about what he is doing, what he is trying to achieve, what could and should be achieved in the classroom and what is pedagogically possible. It may crystallize his concept of important problems, such as motivation, individual differences, heredity and the environment and may influence the collective awareness of the teachers.

The respective literature may also influence the teacher's views and attitudes or may provide him with emotional support in his endeavour by confirming that what he is doing is correct, thereby enhancing his involvement and enthusiasm.

It is very difficult or even impossible to determine the measure of the influence of educational literature. It is a very complex and long-term process and there moreover exist other impacts affecting the teacher's views and attitudes.

The principal types of educational literature for teachers are classified by the author into three groups, i.e.:

- general literature about the aims, intentions, pedagogical principles, interlinkages between socio-economic changes and education; didactic theories and principles, the pedagogy of the child within the framework of educational psychology, general information about various innovations, school systems and practice, etc.,
- literature listing the immediate results of educational research,
- literature of the "journalistic" type which depicts successful local innovations, the efforts made by a concrete school or teacher, etc.

In relation to various types of the literature the author points to certain problems, namely:

- teachers do not as a rule like to accept ideas from people whom they themselves do not teach,
- there still exists a wide "communication gap" between educational scientists who use complicated terminology and refined statistical methodology and average teachers.

As concerns the contextual variable influence of educational literature on the teacher the author focuses on:

- the socio-political context, social needs, the social relevance of what has been written for teachers, etc.,
- the internal context in the group, i.e., the atmosphere in the concrete school or concrete school precinct, encouragement

from colleagues, headmasters, etc., to read and discuss new books and articles, to innovate,

- the characteristics of the teacher himself.

It is evident, said the author, that all three said aspects correlate in a very complex manner; their presentation in the support paper is very simplified, she pointed out, and should stimulate a discussion. The central problem is the manner in which a dialectical unity of theory and practice in this field should be achieved and how the influence on the teacher of relevant literature, based on reliable research, should be increased.

A. Merta /CSSR/ in his communication: "The problems of measuring the effectiveness of the system of educational information" considers the development of an effective method for measuring the effectiveness of the system of educational information and of systems of scientific information to be one of the debts of Czechoslovak and world information science. There does not, he said, so far exist a unified explanation of the definition of the concept of "efficiency" and "effectiveness" of information systems, nor does there exist a generally accepted methodology using the same mathematical and statistical apparatus. The author believes that in ascertaining the effectiveness of the systems of scientific information it is useful to distinguish the concepts of "efficiency" and "effectiveness".

Efficiency is conceived as "information efficiency" regardless of the costs needed for its attainment. The "effectiveness" of the information system is conceived as efficiency measured by the necessary costs.

The efficiency and the effectiveness should be distinguished of the selection subsystem as well as the efficiency and effectiveness of the whole information system, possibly the whole network of information institutions.

Information workers know that ideal efficiency is unattainable, i.e., such efficiency would require expending material and personnel costs which exceed the economic possibilities

of the builder and operator of the information system.

The author believes that a solution could be found by building integrated networks at supra-national level. The international character of science enhances this trend. This also applies to educational information systems.

The authors of methods for calculating the efficiency and effectiveness of information systems have defined the basic parameters and formulas for determining their absolute and specific values.

Revolutionary changes in information technology resulting from the introduction of computer, reprographic and communication technologies together with the rationalization of the formation of data bases will, the author believes, require a review of methods currently used to calculate the efficiency and effectiveness of scientific information systems and thus also education information systems.

F. Kábele /CSSR/ introduced his communication: "Specificities of educational information in interdisciplinary fields, e.g. in special education" by stating that in this field the number of information sources is multiplying. Next to the propedeutic disciplines which explain the biological, psychological and social aspects of the ontogenetic development of the child within the limits of the norm there are other biological, medical, psychological and social disciplines which deal with the pathology of the in aspects of the child's development, namely somatopsychology, child neurology, psychopathology and psychiatry, special psychology /pathopsychology/ which treat children and youth with physical, sensory or psychic defects, behaviour disorders, as well as socially maladjusted children and youth.

Considering the variety and large number of fields and thereby also of sources of information difficulties arise namely in the selection and coordination of offered and used information. Significant is the orientation of this information which is to transmit not the basic theoretical knowledge in the given fields but a certain application of this knowledge for educational intentions and purposes.

The author points our that such a selection requires teamwork and cooperation of workers in the said fields with special teachers and he points out that in each concrete case it will be necessary to discuss the suitability or indispensability of the respective information for educational work. Selection coordination and feedback control in providing and accepting information is indispensable.

J. Koplík /CSSR/ in his communication: "The problem of teacher libraries in the Czechoslovakia and the availability of educational information" pointed to the progressive development which has been under way since 1979 in the concept and development of school libraries. Gradually these libraries are to become specialized, study, information, working and reading centres for pupils, apprentices and students as well as for educators - following the merger of pupil and teacher libraries.

In this connection the question is being solved of the utilization of the often excessive and inadequately used funds of teacher libraries for the study and independent work of pupils.

The author points out that the network of teacher libraries within the framework of the whole educational network has not been completed and to achieve its perfect operation, safeguarding the prompt supply of educational information to educational personnel will require much effort and means.

J. Hradilová /CSSR/ in her communication: "Bibliography as a form of making educational information accessible" proceeds from the postulate that bibliography serves the educational sciences in all spheres and at all levels of creative, administrative and practical activity and in its methods implements pedagogical and psychological aspects, especially in the field of selective bibliographies and bibliographies of recommended literature.

Under the influence of the scientific and technical revolution the process is rapidly accelerating of knowledge becoming obsolete and the necessity of updating is becoming a matter of general validity. In the field of the teaching profession this applies even more than in other professions. For the teacher the significance increases of the function of the bibliography as the means of the socialization of knowledge and as an aid for self-education.

The awareness of the social function of the bibliography the indispensable helper and component of the system of education is evident not only among the bibliographers themselves but also among leading educationalists who often feel responsibility for the state of the bibliography in their field.

There do, however, also appear contrary attitudes among educationalists, i.e., the underestimation of specialized bibliographic work and the substitution of information training on margin of the professional level.

Both approaches are proof to a certain imperfection in providing bibliographical services and in the entire system of bibliography.

The author states that of late bibliographic and information activities in the field of education have undergone a considerable development but that the publication of bibliographies does not yet signify their effective use. It is characteristic of the social sciences that the rising trend in the generation of secondary information sources is not reflected in the same increase in their use. This depends on the quality of processing and on information promptness. Another prerequisite of the effectiveness of the bibliography and one which has not in most cases as yet been resolved is its incorporation into such a system which would be capable of providing the user in the shortest possible time with the full text of the primary source which he has requested on the basis of bibliographic information, be it in form of the loan of the original, the photostat, microfiche, etc.

There can be no doubting the fact, closes her communication J. Hredilová, that there will be a multiple pay-off of investments in the educational system to society regardless of the long-term character of the process. A similar situation exists in the field of the bibliography; in case of educational bibliography this mediation is multiplied and the final effect of the information component of the cycle will be reflected in the distant future: education-information - the teacher - the educational process - the engagement of the young generation in practice - impact on social reality.

E. Jouen /France/ in his communication "Systematic education of working people, especially teachers" emphasised that adult education is beyond any doubt an important act of our time; it is a civilization phenomenon equal to the introduction of compulsory school attendance in France one hundred years ago.

The author went on to say that in his country there are two contradictory approaches to the problem.

On the one hand the employers, more or less supported by the State, depending on the balance of social forces, are trying to restrict the use of the right to release from work for study for mere technical perfection; this then becomes a tool of their policy.

On the other hand the trade unions which also recognize the necessity of specialized perfection conceive the provision of release from work for adult education as the endeavour of the respective student to achieve social promotion and as an attempt for personal promotion.

The current very important negotiations about the concept of the systematic education of working people proceeds from the recommendations of the International Labour Organization of 1974 which requires the introduction of paid release from work for study. This is an expression of the concept of full education and comprises not only the specialized dimension but also the general and especially the trade union dimension.

The formulation is emphasised of paid study leave - the author points out that it is necessary to distinguish the right as such from the conditions of its implementation; a right to do something which is not provided with the suitable conditions allowing its execution is worthless.

The right to education, continues the author, assumes the implementation of three preconditions:

- the right of the working people to select the type of education
- the right to be awarded release from work for this purpose
- the right to be awarded paid release from work for this purpose.

French teachers have been availing themselves of these opportunities since 1971. Every teacher has the right to 36 weeks of leave i.e., one school year, during his career which he may take in form of fellowships.

In the second part of his communication the author pointed to another important point which is a point of argument between the employers and political power in France on the one hand and the working people on the other, namely the structure of bodies responsible for safeguarding systematic education. The author believes that the instruction of the working people, i.e., the in-service education of teachers, should be the responsibility of public institutions and not private bodies which view adult education from the angle of profitability and their own immediate profit.

In conclusion the author discusses the position of the educational sciences in the whole process in which the French working people are gradually succeeding to have their demands met.

In this respect the author clarifies his view that educational sciences may enhance:

- on the one hand the narrow concept of systematic education which will mainly be aimed at better preparing the working people, i.e., the teachers, for the accurate tasks set by their employers,

- on the other hand the broad concept of this education which will include specialist aspects and in which the working people will be able to select such a type of education which will be related to their personal interests.

S.T. Bacheva /Bulgarian PR/ in her communication "Specificity of educational information designed for teachers" dealt with the problem of the conceptual apparatus. Within this framework she analyses the content of the individual concepts and their interrelations.

The author considers those teachers to be the subject of her study who are users of educational information; the gnoseological object are those properties of educational information which become important only when the teacher assumes this role; the aim is to determine the requirements which must correspond to the educational information accepted by the teacher; requirements which are to a certain extent the determinants of his relations to this information.

On the basis of a survey conducted in the years 1971 - 1979 the author arrives at certain conclusions:

- for the teacher the most accessible /theoretically/ and most important /from the pedagogical point of view/ is the methodical standard of educational information. Most teachers remain at this level and only a small proportion reach the theoretical level and only individuals reach the methodological level,
- teachers in the role of users give priority to educational information as the source of educational knowledge, not as the instrument of education and instruction, i.e., they overestimate its semantic aspect to the detriment of the pragmatic aspect which inevitably leads to empty theoretization or to simple empirism,

- there does not exist unambiguity in the content, scope and even terminology of educational concepts which have become everyday usage in science /on regional and international scale/,
- the availability of educational information from the point of view of the teacher as the user is given by the effectiveness of his role as receiver. The availability of educational information is thus not its objective characteristic but is determined by the qualities of the teacher as the receiver of this information,
- the communicability of educational information depends on its availability, on the level of communicating parties and on differences in this level.

The communicability of educational information, concluded the author, is positively correlated to the high level of communicating parties and the non-existence of discrepancies in this level.

R. Klečánková /CSSR/ in her communication: "Educational information as one of the sources of information for teachers" analysed the results of a survey conducted among users of educational information and orientated to the structure and needs of the users.

The author pointed out that the survey showed that users may be divided into three categories:

- administrators and senior educational personnel
- educational research workers
- workers in educational practice, i.e., the teachers.

The findings of the survey, said the author, were interesting because they showed a number of positive elements as well as a number of shortcomings in meeting the information demands of users in the said field. Thus, for instance, the level of educational information used by teachers is generally very low. It is relatively at the lowest level in basic schools and increases

in the direction of technical secondary schools, institutions of higher education and is highest in administrative bodies and research institutions. This fact is justified primarily by the more narrow content and scope of demands on certain types of information.

Teachers are not only users of educational information but they also share of the generation of new educational information and of other specialist information. They mainly generalize their own educational experience and publicize it at conferences and in the press.

The author then went on to discuss the questions of information needs in relation to the structure of users.

Information of all types contributing to the educational system has basic importance not only for improving instruction but is also the fundamental democratic requirement. The problem of communication is basically the problem of the democratization of the administration and organization of education with the aim of providing all educational personnel with the opportunity to partake of the decision-making process which leads to the innovation of the educational system. The author pointed out that the teachers must be given the opportunity of participating in processing information, of contributing to its verification, of publicizing their experience, formulating information in a language which is not overtechnicalized but comprehensible and yet scientific. Communication networks should not be restricted to vertical communication from top to bottom but should also operate feedback communications from bottom to top and horizontal communications at all levels - between schools and between teachers.

There is direct linkage between the structure of users and their needs.

The information needs of workers in education were classified by the author into three categories which are in highest demand:

- information on the organization, economics and administration of education,
- information of the aims of educational systems and pedagogical methods,
- information on the content of education.

In conclusion the author summed up that educational information as was emphasised at the 36th Unesco Conference on Education should:

- be an effective means for administrative bodies in education
- should promote educational research and publicize its results
- contribute to improve the quality of instruction by supplying information to teachers and students
- be part of teacher education and influence educational methods
- bring the educational system closer to the other sectors of the national economy, especially in connection with labour requirements.

I. Wiesenberger /CSSR/ in his communication "The teacher in the educational information environment" emphasised the integrity of the educational information environment in which take place information processes of a social character in the social information environment.

In the following part of his presentation the speaker discussed information systems of the users, namely the information system of the good educationalist.

The educational information environment similarly as any other social information environment always contains a given number of group and individual information systems of which one may be characterized as being the principal information system. The principal information system belongs to that participant in the educational process who implements it, i.e., to the educator who not only influences its implementation but also its overall effectiveness. Each individual information system has

two parts /internal and external/, its internal part has four components /sensory, rational, emotional and intuitive/. All these components form the biological, energy and psychological structure of the information system of the given participant in the educational process. The effectiveness of the overall educational information environment depends mainly on the relationship between the principal information system, i.e., the information system of the respective educator and the information systems of the other participants in the educational process.

The information system of the given educator from the point of view of the effectiveness of the implemented educational process must have sufficient knowledge capacity and bioenergetic intensity and its four components must be in mutual harmony. In view of the fact that the educational process consists in the deliberate action of the educator /the principal information system/ on its participants /the other information systems/the educator of the given specialization /an erudite expert in his field both theoretically and practically/ must be aware of the aims /intentions/ of the given educational process and finally he must know the milieu and the methods by which it is possible to effectively access the given specialized knowledge.

Within the given educational information environment the educator is the central figure. He is the person which controls the whole educational process, is responsible for its results and effects.

S. Petráček /CSSR/ in his communication "The growing importance of information of social science character for the work of the educationalist" proceeded from the postulate that the implemented reconstructions of the systems of pre-service and in-service teacher education change the pre-service and in-service education of teachers primarily in such a manner as to put emphasis not only on the instructional but also on the educational function of the teacher.

The author expressed his belief that in the process of extending the teacher's qualification the educational sciences will be required to adequately access to the teacher relevant information of a social science character allowing the teacher to under-

stand within the framework of his educational mission the multi-stage idea of the further development of the world.

The author mainly has in mind the systematic provision of information about two factors, i.e.,

- information about the development of the socialist social formation which creates favourable conditions for the complete liquidation of the colonial system, for strengthening of the principles of peaceful coexistence and for expanding mutually advantageous and equal international cooperation;
- information about the development of the scientific and technical revolution accompanied by revolutionary qualitative changes in all spheres of human activity and global in scale.

In this connection the author is concerned with the coverage of information on the differences in the manifestations of the consequences of the scientific and technical revolution in the conditions of socialism and capitalism, on the manner in which the consequences of the technological impact of man on nature are projected in the field of energy, raw materials, ecology and elsewhere, including the politics.

Educational sciences, the author believes, should be able to supply the teacher with relevant information depicting the specificity of these problems, i.e., their high level of complexity and their dependence on a large number of natural, technical, economic, social, cultural and other factors, suitably using information from the social, natural and technical sciences.

Such type of information will make it possible to understand the world as a set of regions and countries interlinked through the world market, including the exchange of technologies and scientific information, international agreements and the implementation of extensive international programmes of environmental control and control of climatic conditions, the understanding of the dynamics of this interaction dependent on numerous factors including political and cultural factors.

This will also make possible a better understanding of the world on an intra-regional and intra-state scale.

The use of social science information should, stated the author in conclusion, allow the teacher to evaluate in the fulfilment of his educational mission social reality and prospects of its development and to proceed from the correct philosophical and social postulates; this will in turn allow him to point out the constructive solutions of fundamental problems of our time, such as the maintenance of peace, the acceleration of social progress, the raising of living standards, etc.

The following conclusions ensued from the papers and communications related to the 2nd subject area:

As a result of scientific and technical, economic and social development the existing educational systems are undergoing a stage of changes which are mainly characterized by the information explosion. Demands placed by society on education are growing and the need is being felt for better communications in the teaching profession, such as would be aimed at improving international understanding.

The usual information sources /libraries, bibliographies, educational and study courses, surveys, research reports/ should be used more intensively. In seeking information the teacher is more likely to seek advice from his headmaster or colleage which approach has not only cognitive but also emotional causes and may modify his attitudes.

It appears indispensable that an evaluation be gradually made of the actual effectiveness and topicality of information supplied to teachers, bearing in mind that demands placed on the qualification of teachers are increasing and multiplying in a

manner which is sometimes untenable; the teacher is asked to be informed of the different aspects of pedagogy and other sectors and at the same time to acquire information a related to his field. The teacher is required to guide his pupils in their self-education which again requires that he should have increasingly exemplary pedagogical skills of grasping information which he himself needs.

The discussion revealed a number of problems which should further be studied and investigated, such as:

- the contradiction between the scientific attitude and the intuitive and empirical aspects as well as the contradiction between theory and practice should be mitigated by the research of the information process. The necessity is arising of improving the methods of evaluating the impact of information in education,

- information is not always provided in a form that is acceptable to the teacher.

Data bases should be accessed to all teachers,

- greater attention should be focused on safeguarding the partial or complex solution of the more active participation of teachers in the exchange of information. This participation is the best guarantee of the effectiveness and efficiency of information.

The presented proposals included the following:

- to increase the endeavour for accessing all sources of information, namely all data bases to all teachers,

- in the process of the dissemination of educational information to use not only the usual media but also the new technological media,

- within the framework of the pre-service and in-service education of teachers to prepare the teacher for the effective use of information; to lead them to study suitable methods of the information process and to transmit them to their pupils;

- to stimulate the users to cooperate in the construction and operation of information systems;

- to enhance the role of the teacher as the mediator in the reciprocal exchange of information;

- to involve research and development institutions in the process of the generation and dissemination of relevant information usable by teachers in practice,

- to see to it that systems of educational information systems devote appropriate attention to the complex and differentiated information needs of teachers and help them effectively use the provided services,

- to see to it that the investigation of the information needs of teachers and the effective use of information in education be put on an appropriate theoretical basis;

- to elaborate and suggest measures aimed at the gradual establishment of a network of interdisciplinary and interinstitutional cooperation for the study of the said problems at national and international level.

3rd problem area: The Teacher's Attitude Towards Educational Sciences. The Fight against Empirism in the Teaching Practice. Scientific Control of the Process of Instruction.

The discussion on the 3rd problem area was opened by the introductory keynote paper presented by D. Tollingerová /CSSR/ which was completed by support papers presented by J.Kürti /Hungarian PR/, T. Lednárová /CSSR/ and Z. Náhlík /Hungarian PR/. Taking the floor in the discussion with written communications were J. Měřička /CSSR/, S. Žekova /Bulgarian PR/, L. Ďurič /CSSR/, I. Petkova /Bulgarian PR/, L. Edelsberger /CSSR/.

D. Tollingerová /CSSR/ in the keynote paper: "The Attitude of the teachers to the educational sciences and the need of educational information" proceeds from the postulate that the acquisition of educational knowledge is an active process. This is process is marked by the concert of minimally three very complex processes:

- first the process of subjective information selection, i.e., the process of selective perception which results in man's final acceptance of less than is proffered to him, no matter how much effort he devotes to such perception,

- second this is the process of the subjective condensing of information which results in the fact that what remains of objective educational information in the mind of man is always more economical in content than was the original information provided to him,

- and third this is the process of the subjective enrichment of information, i.e. the knowledge which the teacher transmits is always extended by various emotional, attitudinal or other extra-rational components of his personality.

The author emphasised that man in the system of the communication of educational knowledge is not a technical communication link but primarily a creative human being.

The author also discussed the significance of the concept of the "information need". This concept belongs among controversial concepts. In the literature some authors write of the teachers' hunger for information but research has shown that despite this feeling of need the teachers generally do not belong among those who would with special intensity seek information sources. There does, therefore, apparently exist on the one hand an urgent need of being informed but on the other hand this feeling is not always accompanied by action which would lead to satisfying this need.

The author believes that this contradiction may be explained in the subjective sphere, i.e., in the laws of the dynamics of human needs conceived as a psychological phenomenon.

On the example of a survey the author shows that teachers prefer educational information which serves their own desire for knowledge to educational information which comes to them within the framework of various forms of further education.

The author then discusses the problems of the dimensions or amount of educational information. She states that the survey of the attitudes of teachers to the psychological sciences showed that the strongest desire expressed by teachers in this respect was that psychological information should come to them in small doses and at the right time.

Teachers did not want information centres, they did not want journals, etc., but wanted a school psychologist whom they would be able to personally consult about their problems and who would serve them as a mediator supplying the indispensable at the right time and adequately to the magnitude of their problems.

Specially significant for the possible solution of the relationship between information and the teacher from the point of view of psychology, said the author, is the question of the mechanism of the mediation of educational information. She points out that certain reticence in the teachers' attitude to educational information results among others from the fact that this informa-

tion sometimes reaches them stripped of the initial semantic content or transferred into a different semantic level.

The process of communication of educational information to teachers, the author summed up, has its significant objective and subjective barriers; these barriers result from the fact that so far inadequate attention had been devoted to the role of the subjective factor in supplying the educational process with scientific information.

J. Kürti /Hungarian PR/ is the first support paper related to the subject "The self-reflection of the teacher as a creative personality" proceeded from a basic assessment of one of the most significant aspects of psychology, i.e., the question of the theoretical approach to creativity. After a theoretical introduction the author used the results of surveys carried out in the Hungarian PR to analyse the situation of teachers who have been serving for a longer period of time and the situation of those who are at the stage when they decide to take up the teaching profession. What is the cause of the phenomenon of routine solution and the feeling of the loss of prospects in teachers who have been serving for a long period of time? Is it the problem of the personality of the teacher or a question of circumstances?

The author seeks the causes of such failure in external conditions. She said that the teacher is concerned with finding his own self in the social mirror of authoritative bearers of pedagogical values who give the teacher the possibility to build up his idea of his own position and of the importance of his own work as the teacher. It appears that in this mirror the teacher will find a reflection of all traits of his personality with one sole exception, i.e., the trait of his creative abilities. As a result the teacher will accept conformist solutions of such pedagogical problems whose quality is positively assessed. The teacher loses his impulsive power for innovating and resorts to routine. He learns and develops in that field which is promoted and enhanced. In dependence on this stimulation he develops convergent strategies of instruction and education, expands his

knowledge, strives to maintain formal discipline, develops the personality of the pupils and the collective.

Speaking of the interaction between the teacher and the pupils the author pointed out how the teacher acts as the social mirror for his pupils. We are thus concerned with the values which the teacher can see, identify and strengthen in his pupils To clarify this question the author used the results of a survey which she herself had carried out in the school year 1978-1979 of the self-evaluation of 400 pupils of basic school. The results of the said survey show one significant problem of present school. The teachers are not capable of identifying the creativity of the children and without identifying it they cannot develop it. This, however, does not mean that the error should only be sought in the teacher. On the contrary, the principal shortcomings consist in the imperfect research of creativity, in shortcomings of the higher education of teachers and in the petrified system of the school itself.

The research of the self-evaluation of pupils stimulates us to consider the question of the self-evaluation of teachers. It is probable that where the teacher fails as the social mirror for his pupils he will also probably fail in his own self-evaluation.

The author summed up the results of the surveys saying that the teacher in the present school strives to implement creative activity, feels the shortcomings and would like to overcome them. He feels the necessity of change, not within the framework of objective means but in the field of subjective components.

In this respect a broad movement has been developing in Hungary since the early 1970´s within whose framework scientific workers together with teachers are striving to solve the questions of the innovation of the school system.

T. Bednářová /CSSR/. The second support paper: "Research of Soviet educational psychology for the further education of teachers" proceeded from the postulate that the teacher needs

psychological knowledge in order to be able to put certain demands on himself and to develop such qualities of the personality which are indispensable for the successful instruction and education of his pupils. In recent years significant achievements have been made in the Soviet Union in the elaboration of the psychology of education and the psychology of instruction.

Soviet educational psychology, said the author, is actively reconstructing the process of instruction and education; doing this it is solving tasks on which depends the successful solution of the most important pedagogical problems. It is scientifically justifying the content of instruction and education, its methods and procedures which have already become integrated in the educational process but is also introducing new methods into educational practice.

Data produced by many surveys which show the decisive role of instruction, its contents and methods for the mental development of the child have become the basis for the restructuring of the content of instruction and for shortening its length in basic school.

The author went on to say that the psychological factors of optimizing instruction are being systematically studied.

The experimental trial carried out by Ukrainian psychologists confirmed the significant instructional and developmental function of teaching tasks which are oriented to the formation of the generalized thinking and the behaviour of pupils.

The development of teaching procedures is undoubtedly stimulated by the introduction of educational technology into the process of instruction: this technology increases the psychological load of the pupils and at the same time qualitatively changes their cognitive activity. The results of surveys conducted in the Soviet Union have shown that the application of educational technology has many conditions and demands which form the basis of its practical implementation in the process of instruction.

Specially important for the teacher, said the author, is the study of the interlinkage of teaching and development, the research of the driving forces of psychological development, the causal relations between the social and biological factors in this process, the study of the possibilities of the pupils to acquire knowledge as related to their age, the investigation of methods for improving the quality of the content and methods of school instruction, the study of the role of teaching and education not only for the acquisition of knowledge, skills and habits but for the formation of various psychological and personality qualities of the pupil, for the formation of the pupil's scientific world opinion.

The author noted that the current stage of the development of Soviet educational psychology is characterized by a number of monographs related to the problem of the teacher.

The teacher's search for effective methods of instruction and education from the point of view of psychology must be based on the knowledge of the pupils' psychological reserves. In Soviet educational psychology many surveys have been conducted of the general and specific capabilities /mathematical, literary, pedagogical, technical/ of pupils, the age at which these abilities are formed and developed in school and out-of-school activities.

Extensive research is being conducted in the field of the socio-psychological problems of the school age which have special significance for the formation of the school collective.

The standards of psychological research in the field of education and instruction allow us to state, said the author of the paper in conclusion, that Soviet educational psychology has a firm theoretical basis, applies modern research methods, is orientated to the requirements of life, participates in the solution of new topical tasks related to raising the standards of educational and teaching work and shares of the allround development of the young generation.

Z. Nahlik /Hungarian PR/ in the third support paper: "The teacher and educational science; elements of pragmatism and empirism in educational work" emphasised the growing importance for the development of the Hungarian society of specialized pedagogical training of serving teachers who have graduated from universities or colleges and pointed to the importance of safeguarding the appropriate inter-relations between theory and practice in this training.

In the past decade significant achievements have been made in the endeavour for the unity of pedagogical theory and practice. It is, however, undoubtable that the failure to synchronize the development of educational theory and practice as well as shortcomings in the content, methods and organization of pre-service and in-service teacher education give rise to new problems in safeguarding the unity of theory and practice. The author recommended that of these problems attention should be devoted to certain elements of pragmatism and empirism, i.e., such a spontaneous incidence of empirism and pragmatism which on the one hand results from shortcomings in the theory and practice of teacher training, in theoretical self-education and on the other hand ensues from routine in practical educational work.

The author pointed to the following sources of pragmatism and empirism in the system of higher education for the teaching profession:

1. Pedagogy in some fields lags behind the requirements of practice.
2. There is a lack of harmony between pedagogical, psychological and methodological training and teaching practice.
3. The pedagogical training of student teachers is negatively influenced by the fact that subject teaching has a higher standard than instruction in the pedagogical disciplines.
4. The pedagogical training of student teachers is often reduced to lectures in pedagogy, psychology and methodology and the organization of teaching practice. It is, however,

evident that subject teaching itself should proceed from the general tasks of teacher education. It should be admitted that not all teachers have such knowledge as would allow them to resolve the pedagogical and methodical problems which arise in the instruction of the given subject in the school.

5. In teacher training the principal role is played by teachers of pedagogical disciplines. In the selection of new personnel for the respective departments and disciplines attention should be devoted not only to the high theoretical standards of the young specialists but it is desirable that they should have certain school-based teaching and educational practice.

6. Nothing but the implementation of the creative linkage between the heory of pedagogy and the continuously renewed practice of instruction and educational work can successfully counter the incidence of pragmatism and empirism.

The author pointed out that the whole system of higher education in the Hungarian People's Republic would be reviewed in the coming years.

J. Měřička /CSSR/ - in his communication: "The Problems of introducing educational research results into practice" pointed out that as compared with research in the technical or natural sciences the situation of pedagogical research was more complicated in that its results and significance were more difficult to prove on a general level. Pedagogical research must therefore also deal with obstacles standing in the way of the introduction of the results of scientific research and innovations into the actual educational process.

The causes of the incomplete or slow introduction of the results of pedagogical research into practice are seen by the author to lie in objective obstacles /shortcomings in personnel and material equipment, lack of funds for the introduction of innovations, etc./, and in subjective obstacles which he discussed in more detail mainly because they are often not evident.

The subjective obstacles to the introduction of innovations mainly consist in that a smaller or greater part of the teachers does not have a positive and active attitude to the suggested changes. The negative attitude of teachers to the introduction of research results into practice has many natural causes, namely:

- the teachers are not convinced of the correctness of these results or of their indispensability or they fear that their implementation will be too difficult or laborious; this is what is described as the psychological barrier to the introduction of innovations into practice;

- the principle of repetition is a major factor in the work of the teacher, i.e., repetition of the subject matter in the text-book, repetition of last year's subject matter, etc. The introduction of innovations, be it in the content or methods of instruction in fact constitutes a violation of this principle.

Other manifestations of the subjective obstacles to the introduction of the results of pedagogical research into practice as listed by the author include:

- it is more difficult to prove the advantages of the implementation of the results of research into practice. The measurement of effectiveness or productivity is much more difficult than in industrial production. The results of the introduction of the new method of teaching moreover depend on the qualities of the teacher, on the qualities of the pupils and students, on the social and material environment, it is only possible to ascertain these advantages after a considerable period of time has elapsed from their introduction. The introduction of a certain innovation into the educational process may as a result of all this have contradictory results,

- the necessary scale of this implementation process given by the fact that the sum of pupils, students and teachers makes education one of the largest sectors in society.

The author goes on to point out that at institutions of higher education the reason for the slower introduction of innovations into the teaching process is that teachers at these institutions give preference to their own specialist and scientific work to pedagogical work. The scientific work of a college or university teacher has greater prestige than his pedagogical work. Scientific publications are traditionally more valued than pedagogical work or publications on educational problems.

The author believes that in the stage of the introduction of the results of educational research into practice it is urgent to devote attention to the social conditions for such implementation. Next to the sufficient number of experts, adequate financial means and time the implementation of innovations is dependent on the nature of the initial pressure exerted on the introduction of the innovation or reform, on the nature of the values which will influence the reforms and on the extent to which the aims of the reform will be accepted or rejected. The implementation of the results of educational research in practice is conditional on support given to teachers and school administrators.

It is necessary, said the author, that research workers should know the needs of the schools and that they should have good contacts with the teachers. Very effective is the direct participation of the teachers, i. e., future users, in research proper. This will yield spontaneous innovations which the teachers will introduce on their own initiative. Such instances deserve special analysis to ascertain the motivation which could then be applicable on a wider scale.

S. Zhekova /Bulgarian PR/ in her communication: "The Attitude of young teachers to furt er education in the field of the educational sciences" pointed out that the first 4 - 5 years of professional work are extremely important for the teacher's future achievements. They are in a certain sense the teacher's crisis years. The author and her colleagues have for many years been devoting their attention to the study of this particular

period in the work of young teachers. They are studying the specificity and process of their professional adaptation, the difficulties and problems, the principal and secondary factors of these difficulties and ways of overcoming them.

The author lists certain data on the nature and type of difficulties which occur in the social and professional adaptation of teachers.

She believes that the difficulties in social adaptation arise from the fact that

- the teacher's adaptation to the pupils/students in the class and to the whole school collective proceeds slowly and with great difficulties,
- the teacher's adaptation to the social group of parents is also accompanied by many difficulties,
- social adaptation to the group of the teacher's colleagues is relatively easier,
- the feeling of allegiance to the great social group of the teaching profession is formed relatively slowly. This feeling usually forms later than in the first 4 - 5 years.

Difficulties in professional adaptation are identified by the author as follows:

- the greatest difficulties encountered by young teachers are with the forms of professional work related to the organization of and actual extra-curricular work with their pupils and students and out-of-school activities; for this work they have only received general and informative training,
- as concerns direct professional functions they are relatively best prepared for informative work,
- the weakest point is the ability of the young teachers for cognitive work,
- the constructive and organizational functions are at the bottom of the value scale of young teachers.

In conclusion the author points out that full-fledged professional qualification of young teachers depends on:

- the significance which their environment attaches to the teaching profession and whether this profession is conceived as pedagogical by the school which trains the teacher and in later years of his professional work,
- whether young people are psychologically prepared for the fact that they will not only be "teachers" but that they will supervise the allround development and formation of their pupils/students which in turn requires specialized pedagogical training,
- their actual readiness for this work, i.e., such work as would involve diverse practical and applied procedures in all fields of this activity: the lesson, extra-curricular work and out-of-school work,
- their general attitude to the profession of the teacher.

J. Ďurič /CSSR/ in the first part of his communication: "The preparedness of the teacher to integrate psychological knowledge in his own educational activity" briefly recapitulated the effort of the psychological sciences to influence, since the second half of the 19th century, the educational science and educational and instructional work.

He identified three key stages of the "interference" of psychology into education:

The first stage, he said, was marked by the endeavour of society to provide children in compulsory school attendance age group with general education according to the educational aims of the time. Education turned to psychology to provide it with scientific knowledge on cognitional and psychological processes.

The second stage developed, said the author, as a criticism of the first stage. Civilized society could no longer be satisfied with the pupils acquisition in school of ready-made knowledge /often passive/ but wanted the school to develop in the pupils such abilities and skills which they could use in new situations. Intelligence was to be such an ability.

The limitations of this effort became evident as the years went by. In the last three decades the aim of the educational process is no longer the mere development of the intellect but especially the deliberate development of their creativity.

The third stage of the interference of psychology in education consists in studying the problems of the psychology of creativity, mainly the psychology of creative thinking. Educational psychology as a science related to the psychological laws of the educational process in school and extra-mural education is faced with the necessity of solving the problems of the deliberate development of creativity, i.e., the creative thinking of pupils/students and this is one of its principal current tasks. In the Czechoslovak Socialist Republic this is among others stated in the document: "Project of the Further Development of the Czechoslovak Educational System."

In the second part of his communication the author approached the problems of the actual projection of psychological knowledge into educational practice. He stated that this cannot be achieved by the psychologists alone, that this knowledge can be introduced into the school primarily by the teachers and instructors. The deliberate development of the creative thinking of pupils can mainly be achieved by the teacher through controlled instruction, i.e., in the actual teaching process. The psychological training of teachers for all school levels has improved and is further improving. There are, however, certain problems which must be resolved by departments of psychology at institutions of higher education training for the teaching profession.

In conclusion the author of the communication recommends that the following measures should be taken in the psychological pre-service and in-service training of teachers:

- to organically include in the individual psychological disciplines /general, developmental, educational and social psychology/: the creative personality, the creative process, the product of creativity, creativity and intelligence, the motivation of creative thinking, creative behaviour, the creative personality and the pupils´collective, education for creativity,
- to include in the final stage of psychological training the synthesizing subject "psychological problems of pupils´ cognition"
- to elaborate and gradually prepare the possibilities for placing school psychologists in schools and in other educational institutions.

I. Petkova /Bulgarian PR/ in her communication: "The Educational and psychological problems of the use of educational technology in the process of the further education of teachers" acquainted the participants in the Colloquy with the results of an educational psychology survey carried out in connection with the use of the audiovisual complex /AVK/ in the in-service education of teachers. This complex was established at the author´s institute and comprises a completely equipped laboratory with all technical media which are remote controlled from the control panel. It is equipped with a closed-circuit television system for transmitting lessons to two lecture halls, with a command system by which the methodologist provides information and corrects the work of the teachers during the teaching unit without interfering with the pupils´work.

Work with the audiovisual system and the use of various technical media places on the teacher not only general didactic demands but also higher and new demands related to the preparation of the teaching unit, i.e., extensive scientific preparation which in turn requires good knowledge and insight

of the content of instruction and the theory of technical teaching media, methodical preparation which is related to the work of the teacher in general and work in the audiovisual complex in particular and technical preparation which is related to the work of the teacher in general and work in the audio-visual complex in particular and technical preparation which is related to basic technical knowledge which is indispensable for the correct and effective use of technical media in the teaching process.

In her communication the author dealt with these and other specific aspects and stressed that the adaptation and training of pupils and teachers for the use of technical media ranks high among the investigated educational psychology problems. The scope of this training has been determined and its methods and forms defined such as to prevent complicated technology from having unfavourable impact on the process of instruction.

The conducted survey showed that all those who attended the observation lessons - the students and faculty teachers as well as the visting teachers were agreed on the advantages of the audiovisual complex.

There do obviously exist many difficulties and shortcomings which may be removed after the accumulation of experiences and an in-depth study. These are difficulties of both methodical and technical character.

On the basis of a conducted educational psychology survey the author expressed the following conclusions:

- the significance was proven of the audiovisual complex for instruction and especially for the further education of teachers,
- proof was obtained showing that technical media are indispensable but should be used rationally and considerately,
- laws of educational psychology were studied and analysed such as are connected with the use of technological media in teaching; this is a new aspect of the use of technological media in teaching,

- the educational psychology analysis justified the necessity of the technical improvement of the audiovisual complex,

- certain conclusions were arrived at which will serve as the theoretical basis for the development of a scientifically based methodology of teaching in the audiovisual complex. The described project is still under way.

L. Edelsberger /CSSR/ opened his communication by stating that the subject of the Colloquy was dealt with 120 years ago by Ushinskiy in an article On the Usefulness of Educational Literature published in the journal Zhurnal dljya vospitaniya. He pointed to the number of notable historically conditioned answers which Ushinskiy found to the same questions in his work.

The author of the communication went on to point out the importance of the relationship between the detection and normative aspects of pedagogical cognition in their indivisible conjunction and noted that Ushinskiy enhanced the detection aspect of pedagogical cognition by writing his pedagogical anthropology where he considered man as the object of education.

The author of the communication expressed his belief that a certain underestimation of the study of pedagogy results from the contradiction between the detection and normative aspects of pedagogical cognition. Teachers mostly consider pedagogy to be a normative science. Many of them are adherents of pedagogical normativism, empirism, practicism, pragmatism and intuitism.

As for satisfying the desire of numerous teachers for advice and instructions for every pedagogical day the author of the communication believes that this may be done by theoretically determining constituting and gradually putting on a scientific basis pedagogical methods, special pedagogical methods as well as scientific pedagogical disciplines, as has been the case in the past 20 - 30 years. This will naturally concern such methods which observe the close dialectical linkage between the detection and normative aspects of pedagogical cognition.

In conclusion the author of the said communication dealt with the justification of the need for devoting adequate attention to pedagogical diagnostics in the educational process and through it to unify and bring closer together the detection and normative aspects of pedagogical cognition thereby increasing the teachers´respect for educational science and to enhance its implementation by the teachers.

The papers and communications related to the 3rd problem area yielded the following conclusions:

The scientific management of the educational process necessarily requires from the teachers a professional knowledge of the psychological laws of the development of the personality of the child and his cognitive activity. As the mediator between science and the educational process the teacher conducts the integration and selection of current scientific information with regard to the needs of the teaching process, the age and individual typological specificities of the pupils. This becomes specially effective if the teacher expresses his own personal and emotional attitude to this information.

The educational process takes place in the unity of the activity of the teacher and the pupils. Their cooperation implemented under the direction of the teacher must be subordinated to the allround development of the creative activity and independence of the pupils. The aim of educational science is to supply the teacher with the method of directing the process of the formation of his pupils´active creative approach.

In current mass school practice individual elements of pragmatism and empirism tend to appear. This is caused especially by the fact that the progressive training of student teachers does not adequately implement the linkage between educational theory and practice. The attitude of student teachers and serving teachers to educational sciences will change in a positive manner if the teaching process they direct will have a high ideological and theoretical standard based on integration and inter-subject correlation, on close linkage with the current needs of social and practical activity.

In the process of the pre-service and in-service education of teachers it is necessary to conduct a synthesis of the whole complex of educational and psychological knowledge which is the decisive precondition of the professional work of the educationalist.

The discussion revealed certain scientific and practical problems of pedagogical education which should further be studied, such as:

- the modelling of the educational activity and of the personality of the teacher,
- educational diagnostics,
- the study of conditions for the integration of social psychology and pedagogical knowledge; the unity of the theoretical and practical training of the teacher,
- scientific research of the pedagogical skills of the teacher and their implementation in his practical activity.

Suggestions for further work in the said problem area included:

- the development of curricula for institutions of higher education training for the teaching profession should take into consideration the increased share and role of the educational psychology cycle,
- to ask the European Information Centre of Charles University for the Further Education of Teachers to prepare and convene a colloquy related to the subject area: "Educational psychology and pedagogy in the system of pre-service and in-service teacher education."

4th problem area: Acquiring the Acquisition of Knowledge of the Educational Sciences in the Process of Education and Self-Education of Teachers. Possibility of Purposeful Control of This Process.

The discussion concerning the 4th problem area was opened by the keynote paper delivered by V. Brichta /CSSR/, support papers were presented by J.G. Georgieva /Bulgarian PR/, J. Maciaszek /Polish PR/ and S. Zhekova /Bulgarian PR/. Taking the floor in the discussion with written communications were H. Faust /GDR/, M. Hladílek /CSSR/, A. Mainka /GDR/, V.Šetelová /CSSR/, D. Kulich /CSSR/, A. Panayotov /Bulgarian PR/, J.Skácel /CSSR/ and L. Stanoyev /Bulgarian PR/.

V, Brichta /CSSR/ in the keynote paper: "Assumptions of and ways towards improving the initial training of teachers" proceeded from the postulate that one of the characteristics of our time is the growing importance of education and of the allround development of the personality. Very urgent is the need of improving the quality of the educational system such as would make it correspond to current and future needs of the development of society.

These demands cannot be conceived quantitatively. We are not concerned with a sum of knowledge and with extending the length of school education, insofar as it has reached the level indispensable for safeguarding a standard of education and training for life which is adequate to the given contemporary stage of the development of society. We are concerned with the ability of the teacher to find an orientation in the continuous flow of knowledge and information with the aim of retrieving and using the knowledge and information needed for his work. This is the basis of modernly conceived education which allows for a more rapid adaptation and specialization.

The author expressed his conviction that only a teacher who has acquired allround education and training is able to meet the exacting demands placed on the educational process, only such a teacher will be able to meet these demands who will have

the ability to continuously improve his qualification, one whose work will have an explicitly creative character.

The author went on to say that the pedagogical training of student teachers has special significance in forming the personality of the teacher. Education is a complex and sensitive process. Intuition and tact are not sufficient no matter how important they are for the teacher. The educational process should not proceed spontaneously but as a controlled process and to achieve this the teacher must have a solid grasp of the fundamentals of the educational sciences.

For the teacher the educational sciences are the decisive instrument for understanding the substance of educational phenomena, the scientific foundations of methodology, the technology and technique of educational work and basic educational mastery. The significance of pedagogical education increases with the development of society.

The author pointed out that despite the fact that the study of educational sciences forms the basis of the pedagogical training of teachers the problem and task must not be restricted to this area alone. The point is that the degree of mastering the individual disciplines of the educational sciences also depends on a number of other prerequisites which should not be neglected. One of the decisive factors are such traits of the personality of the student teacher without which no teacher can be a success. The degree of professional orientation to a considerable extent influences the quality of the study of student teachers, especially the quality of their pedagogical training.

It follows from the evident role of the teacher in the educational process that the traits of the personality of student teachers include wide interests, a high intellectual standard, and as concerns the actual professional pedagogical pre-requisites a profound interest in work with children and youth and also an idea of the teacher's mission and work. For various reasons the current state does not, however meet the stated demands.

The author considers it important that at this stage considerably greater attention should be devoted to the question of the professional orientation of secondary school students, to the development of the abilities and aptitudes of those secondary school students who have shown certain personality traits of future teachers and also the development of a system of evaluating the abilities of applicants for the teaching profession in the course of the admission procedure at institutions of higher education.

The author stated that despite great effort which has been exerted and good experience which has been gained the state of work with secondary school students and the identification of the abilities and aptitudes of graduates for the teaching profession is still unsatisfactory.

The study of disciplines of educational sciences is the basis of the pedagogical training of student teachers at the respective faculties. The ccurriculum of the discipline of pedagogy in Czechoslovak conditions is conceived such as to lead the student from the introductory disciplines to the basic theoretical subjects, teaching practice and to teach him to successfully control the educational process.

General and comparative pedagogy is aimed at acquainting the student with the basic concepts of Marxist pedagogy, with the role of education in society, its historical class conditionality, the basic characteristics of the educational system in Czechoslovakia and in the other socialist countries as well as in the non-socialist countries.

The task of didactics is to lead the students to understand the substance of teaching, its principles, organization and methods. In this discipline special attention is devoted to teaching the students to practically apply theoretical knowledge acquired in school, to the problems of raising the effectiveness of teaching and its modernization.

Other disciplines are the theory of school and out-of-school education, the didactics of subjects of technical specialization, the management of education, the history of education and pedagogy and the theory and method of communist education. Following up on these disciplines are selective seminars. Teaching practice is an important part of pedagogical training.

The number of teaching hours devoted in the curriculum to the educational sciences do not, the author believes, is not the main problem bearing on the quality of pedagogical training. Much more significant, he believes, are the following problems:

- the deepening and strengthening of the professional orientation of student teachers as an important stimulation factor for quality teacher training;
- the development of the pedagogical thinking of the students, the formation of the foundations of their pedagogical mastery,
- pre-service teacher education for independent creative work as the totally indispensable pre-requisite for coping with the tasks of controlling the educational process in compliance with the needs of the development of society,
- safeguarding the complex systems approach to teacher training as an important factor for the substantial improvement of the quality of this training.

In conclusion the author stated that the improvement of the quality of pre-service teacher education is a topical and urgent task which expresses objective needs and conditions. The said task should not be conceived in the narrow sense merely as a question of improving the quality of the study of educational science disciplines but as a complex approach and concept which also includes the solution of a number of problems and the fulfilment of a number of tasks - this will in turn create the necessary preconditions for improving teacher education in general and its most important disciplines in particular. This is also the road towards a more effective study of the educational sciences whose importance in pre-service teacher education

is growing and will continue to grow.

The author discussed the problem area in depth in all parts of his keynote paper.

Y.G. Georgieva /Bulgarian PR/ in the first support paper related to the problem area: "Acquisition of educational knowledge in the process of the self-education of teachers and possibilities of its purposeful control" the author proceeded from the postulate that the aims which have been set to the unified school cannot be achieved without significantly improving the quality of educational work, this mainly because the allround development of the pupil's personality and its full realization requires that the teacher should himself be a person with a versatile and developed personality.

In the whole system of the in-service education of teachers self-education is an activity of special importance. Educational surveys, said the author, have as yet not made indepth analyses of the specific aspects of the self-education of the teacher, the content and form of in-service education through independent work.

The author points out that the aim of the self-education of the teacher is to drew him closer to creative seeking, experiments and research and what is most important - to the linkage of scientific results with all work in the process of teaching and education.

Next to classical methods of in-service education such as lectures, seminars, observations and analyses of lessons and teaching units, in the Bulgarian People's Republic such methods are greatly spreading which assume extensive theoretical and practical education.

The process of self-education is primarily a process based on the individual but practice has shown that collective forms of self-education have proved to be more effective.

The whole system of self-education requires a correct organization of self-education in the school. The headmaster of the school must help the teacher in the choice of the theme of self-education and in the choice of the forms of work and in the elaboration of an in-depth plan of this work.

The system of self-education is the organic continuation of work which is being carried out in institutes for the in-service education of teachers. Practice has shown that teachers who devote themselves to self-education require continuous methodological guidance. The question arises to what extent the teacher is acquainted with the method of self-education, with the culture of mental work, to what extent the school has secured for him conditions for independent work and the respective adequate material basis.

The author then devoted her attention to questions of self-education related to method, i.e., such as are connected with the elaboration of a bibliography of the given theme, the compilation of a subject catalogue in the resources centre or in the teacher's own home library, the teacher's study under conditions of the continuous flow of information, the systematization and description of studied literature, etc. In this respect great importance is attributed to the role of institutes for the further education of teachers and regional educational centres.

In order to make the teacher's self-education a controlled process it has to be controlled in a well-conceived manner and orientated. It should not be administratively directed. Independent work is essentially deeply motivated. It is a complex activity and supervision as one of the complex control functions may lead to achievement only if it is principial, honest, differentiated and systematic and if it complies with the set target.

The methodical centre in the school is the basis for the teacher's self-education and it is specially useful for young teachers and for those who are attending distance study courses.

In 1966 a new form of stimulating teachers and school administrators to improve their qualifications was introduced in the Bulgarian People's Republic. The project concerns such teachers and senior educators who have achieved good results in their educational work and want to improve their theoretical qualifications and pedagogical mastery. This is a system of qualification categories which compensates certain shortcomings in the existing system of teacher education. The author pointed out that it has been possible to overcome the gap which separated post-graduate study from the concrete needs of educational and teaching practice. The teacher's inner need of independent creative seeking and his need of purposeful self-education has thus been stimulated through differentiated remuneration for the work of the teacher and the head of the school or other educational installation in dependance on the manner in which he is improving his qualification and the results of his educational and teaching work.

In conclusion the author of this support paper pointed out that self-education will in the future play the key role in the further education of teachers and that the improved quality and effectiveness of educational work will depend on its control.

J. Maciaszek /Polish PR/ - in the second support paper related to the said problem area: "Raising the level of the educational sciences and of the pedagogical skills of teachers" the author stated that there are three groups of inter-related factors in teacher training, i.e., knowledge of his discipline, knowledge of psychology, pedagogy and social life, knowledge of the functioning and problems of society and the ability to use diverse methods of educational work.

The system of teacher education which was introduced in Poland in 1973 is based on a unified concept of curricula which provides for the linkage of three blocks of subjects: ideological, pedagogical and specialized.

The author points out that a generally prevalent trend may now be observed in teacher education towards specialization in the respective subject. This results from the urgent need of the teacher's deep knowledge of the subject which he teaches. There is also the endeavour to deepen the pedagogical knowledge and awareness of teachers and to deepen their professional skills. These afforts are made to enable the teacher to consider himself not only as a teacher but also, and this is to primary importance as the educator. From this point of view the solution of the problem of the linkage of theory and practice has special significance.

Raising the standards of pedagogical knowledge and the coordination of theory and practice proceeds under diverse conditions and in different situations which are specified by the author as follows:

- an effective manner of familiarizing the teacher with pedagogical experience is the direct cooperation between scientific workers and the school,
- the interlinkage of theory and practice is to a considerable extent conditioned by the possibility of acquiring new information from educational publications /journals, theoretical publications, methodical handbooks, text-books, journals of general pedagogy and specialized journals for teachers of the individual subject/,
- a significant role in the further education of teachers is played by the Teachers' University which is broadcast by radio and transmitted by television; this university has been in operation since 1974,
- teacher training is also attended by young higher education teachers in 1976 a document was elaborated concerning the principles of the organization and programme of the ideo-

logical and pedagogical education of young higher education teachers. This document signified the beginning of compulsory pedagogical training of young university and college teachers withing the framework of post-graduate study which was introduced at all institutions of higher education in the Polish People's Republic in the school year 1976/77.

The said effort for raising the professional qualifications of teachers is part of measures aimed at raising the standard of the educational culture of society, including the teachers.

The author went on to say that the pedagogical culture of the teacher may be defined as his attitude to education, rearing and child care. The concept of educational culture must include not only knowledge and skills but also emotional sensitivity to the problems of the pupil, the ability to see his needs and interests and to fully understand them.

The professional mastery of teachers which will result in raising the standard of educational culture will only be achieved by the balanced attitude of pupils to the school on the one hand and the attitude of the teacher to theoretical knowledge of the educational process on the other, concluded the author in her support paper.

S. Zhekova /Bulgarian PR/ in the third support paper: "Pedagogy and the research of the teaching profession" devotes her attention to one sphere which remains neglected by educational science.

This is the sphere of the immediate problems and specificities of the teaching profession.

The author points out that educational science has as yet not produced a categorical reply to the question of the nature of the teaching profession.

In those cases where there exists a definite view of the new functional structure of the teaching profession substantial differences remain in the determination of its principal com-

ponent. Certain authors /they form the majority/ believe that this is the component of communication, other believe that it is the component of organization. There are authors who consider the component of cognition to be the principal and most important component of the functional characteristic and structure of the teaching profession.

Educational science has as yet not answered the said questions. This is not because it underestimates the teacher and his role. The failure to solve these problems is caused by the manner in which the teaching profession is studied and characterized. What are the characteristics of the work which has so far been conducted to solve the said problem? The author gives the following answer to the posed question:

1. The substance of the teaching profession is primarily revealed indirectly - through the pupils, through instruction, through the forms of school work and through out-of-school activities. The content and quality of the teacher and his work are generally derived from the educational system, from the problems of teaching and the tasks of the school but they are studied "from the inside", from their actual substance, structure and manifestations.

2. The study of the teaching profession, insofar as it is at all conducted mostly remains at the empirical level. Definitions, solutions and constructive suggestions related to teachers and their work are mostly based on data and indices obtained from experience.

3. The teaching profession is studied as an entity. Only general characteristics and requirements are stated and the specific influence of the age groups of the children, the type of the school installation, the concrete qualifications of the teacher and other factors are not taken into consideration.

4. Demands placed on the profession of the teacher are currently characterized by emphasised but unjustified and unfounded maximalism; categorical and superficial demands are being voiced.

5. The characteristics of the teacher's professional work and demands placed on the teacher are static in nature, are marked by a lack of dialectic, by inertia and dogmatism.

The overall evaluation of the said methods of the research of the teaching profession cannot be positive, said the author and it is therefore unsatisfactory, she added. The said methods cannot reveal the substance and specificity of the teacher's work, cannot penetrate its specific dynamics.

Complex studies revealing the character, determining the structural components and their specific functional dialectic and revealing the "nodal" moments in the teacher's profession remain to be conducted. In this respect, said the author, educational science has a debt to pay to the teaching profession.

Educational science must establish a well-founded and modern view of another problem too, namely that of the genuine unity of the process of education and teaching and its implementation in educational practice. This is directly linked with two principal moments: the removal of the division of the teacher's work into "teaching" and "rearing" although this is only a relative factor, and the new modern solution of the question of the forms of teaching and education.

H. Faust /GDR/ introduces his communication "The Problem of activating in ellectual work in further education of teachers" by saying that in the schools of the German Democratic Republic a broad discussion is under way on questions of raising the effectiveness of teaching for developing the pupils personality. Such questions include: How do we provide all pupils with broadly applicable knowledge and skills as the basis for excellent general education? How can be even better link the education of youth with the life of the socialist society? How can we form even better and more effectively the humanitarian basic attitudes of our pupils, to allow them to better understand the struggle of our time, to side with social progress, to actively stand up for peace, to denounce every type of racialism and discrimination and to implement active solidarity? In these

questions is manifest our teachers' profound understanding of the social mission of our school.

From them proceeds the constructively critical attitude to one's own work, to seeking ways of improving one's own everyday educational work. With this is usually linked the cognition that the indispensable condition for raising the effectiveness of one's own teaching activity is the use of the experiences of progressive educational practice and the study of the educational sciences.

The author emphasises that with this increases the significance of solving problems related to the mental activity of pupils during the teaching unit because the problem of the pupils' activity has decisive importance for raising the effectiveness of the teaching process.

Only through the development of the pupils' activity orientated to the aims of instruction, in the process of coping with the content of instruction will it be possible to enforce the desirable concept of the teaching process.

The author goes on to comment a number of attitudes and basic views concerning the problems of activating pupils such as have been voiced at his institution and points out that their existence and significance has been verified in surveys.

The clarification of basic attitudes to the problem of activating pupils is an indispensable precondition for taking adequate concrete didactical and methodical measures in the planning and arrangement of the teaching process.

Further education which would be restricted to the mere development of these basic positions and approaches would be little effective, concludes the author. The clarification of basic attitudes to teaching must be linked with the interpretation of knowledge and experience and their implementation in the concrete teaching process.

M. Hladílek /CSSR/ in his communication: "The role of the teacher in the formation of socialist morale and his preparation for the fulfilment of this significant social function" stated that the process of school education is implemented to an ever increasing extent under the joint influence of a wide range of out-of--school educational factors of various sources and diverse intensity.

Moral education which has a specific position among the components of communist education is the most difficult part of the educational work of the school primarily because the dynamic process of the moral development of children is determined by complex external societal conditions.

The success of the educational work of the school, continued the author, assumes not only the cognition of the broader interrelations in which is implemented the educational process but also the analysis of the attained moral development of the children, specifically their forming value system, their behaviour and acts.

The emphasis which is placed on raising the educational function of the school therefore conforms with the needs of our socialist society which formulates education of man with new moral qualities as its aim, one whose attainment is the indispensable condition of its further successful development.

The specific hierarchy of educational aims, continued the author, may be attained and implemented only by the creative, systematic, planned everyday operative work of the individual teachers. In this respect the personality of the teacher is irreplaceable.

The teacher should be able to concretely implement the educational goals, especially in relation to the individual stages of the development of the personality of the child, he should be able to use possibilities specific for the individual school level, subject and educational activities. He should respect the specificity of the moral consciousness of the child.

The author informed the participants that a survey involving 707 teachers which was conducted in 1977 confirmed that the teachers are aware of the diversity of the socialization trends and that they distinguish the rate of its positive and negative influence. In some cases their views agreed with sociologically confirmed facts in other cases the actual knowledge the problem area is substituted by unjustified assumptions.

The evaluation allow us to assume that in most cases the teachers do not adequately take into consideration the process of the gradation of educational requirements with the age of the pupils.

In contemporary school practice, continued the author, it is necessary to overcome the state which survives in the relationship between the teacher and the pupil, i.e., that the teacher does not always create an appropriately favourable atmosphere for the confrontation of the pupil´s views with his own and for a certain confrontation of his own views with those of his pupils. This attitude which in a particular manner guards the authority of the teacher´s personality, this "sanctioning" of a situation which is void of any conflicts in its consequences, i.e., in the evaluation of the moral behavious of the children, leads to formalism.

The moral qualities of socialist man can successfully develop only on condition that the child is actively involved in collective activities, on condition that a system is established in which the children´s natural need for activity is satisfied.

In conclusion of his communication the author stated this conviction that the systematic educational work of the school, such as will respect the dialectical relationship of aims, means and conditions of education will only be successful if it succeeds in unifying the whole range of the impact of education. Without the unified educational influence of all educationalists with in the educational process and in out-of-school education, without the cooperation of the family and of all institutions partaking of the child´s education, without the production of

the cultural sector and the mass media in particular it would not be possible to form the needed moral awareness of the young generation such as would become the motivating factor of their active and involved approach to the building of our socialist state.

A. Mairka /GDR/ in his communication "The educational sciences and raising the pedagogical skills of university teachers" the author proceeds from the clarification of views which are held by his collaborators and which are being verified in the conducted survey.

The concrete points were listed as follows:

- higher education methodology is recognized as being a significant partial discipline of pedagogy, valid for higher education. Higher education methodology is conceived not only as the concrete implementation of didactical prescriptions for higher education instruction but the view is held that higher education methodologies for the individual fields of instruction represent independent educational science disciplines. Here, said the author we apply the experience gained in the field of with general education. General education schools have in past decades successfully been developing the methodology of the individual subjects and disciplines,

- the child learns in strong dependence on the skillful preparation of the content of the instruction, on the basis of positive social relations to his teacher and to the other children in the class, in dependence on the degree to which his individual psychological qualities, including those which are typical of his age are respected. The adolescent, i.e., the young adult, frees himself of such dependence /this mainly applies to the student/ and acquires the content of the instruction "in pure form", i.e., as a science. This shift of the motivation disposition and the growing ability of the student to learn independently, to study, places specific demands on higher education methodology.

The team in which the author work is therefore conducting surveys to find the determining factors of education such as proceed from the scientific content of instruction and the work of the team is oriented to the practical implementation of these factors in the teaching process. Courses for the in-service education of higher education teachers are aimed at teaching the teachers at this level to present their scientific disciplines on a level which is adequate to higher education and its specificity and to teach them to optimally use the immanent potential of science for education.

Work in the field of higher education methodology is interpreted as analytical work. The attendees of these courses are required to make analyses of their scientific fields in order to be able to determine the content of the respective science which is to enter the teaching process. For this work in the field of higher education methodology it is indispensable to know the aims of instruction and education, to specify them and express them in concrete terms. Aims as a pedagogical category play the decisive role in the choice of the content within the framework of higher education methodology.

There are a number of possibilities of the sequence of scientific contents. The author cities some of them as postulates for elaborating the "methods solutions" for special problems.

The author concluded her communication by stating that in the course of several years of work her team developed "methods solutions" for various sections of instruction. Their most important characteristic, that which gives them the character of "methods solutions", is their concrete nature, continuity with content. They always only apply to the respective section of instruction. The question of their transmission to similar sections of instruction will have to be studied.

V. Šetelová /CSSR/ opened her communication: "The specialization and versatility of the teacher" by stating that higher education of student teachers in the Czechoslovak Socialist Republic in the past thirty years creates preconditions for highly work with children and youth. The specialized knowledge of the teachers has a high standard and their effort to transmit as much of their knowledge as is possible in the teaching process is adequate to this knowledge. There is genuine interest among the vast majority of teachers to keep in step with science and technology and to find and grasp a method which can be used to incorporate the current growth of the information flow into school practice.

The author points to the fact that the specialization of the teacher creates preconditions for the identification of the specialized interests of the pupil, for detecting his talent, for orientating him to the appropriate profession or to professional training and thus to a certain extent guarantees the general initial specialization of the young generation in practical life and indirectly influences the level of society in the individual areas.

The basic principle of the teacher´s mission is not only to teach, his role and mission is also to educate.

It is beyond any doubt, continued and author, that the allround concept of education requires an equal standard of specialization from the electrical engineer, the pianist, etc., because their specialization must be founded on knowledge and method. For this reason the school cooperates with the public organizations associated in the National Front. However, the teacher will always remain the decisive factor in education. He acts by his personal example and in a wide variety of situations creates the basic educational climate within the working atmosphere and in out-of-school activities.

The educational power of the teacher is manifest in these and other situations, i.e., in situations in which he not only faces the class but has the students all around him even behind his back. It is at this moment that the teacher's natural authority is either established or destroyed as here we are concerned with something else than the narrow specialized knowledge and skills of the teacher. The success of the teacher's work depends equally on his specialized knowledge and on his versatility. Specialization without versatility is not convincing.

The very standard of the subject itself, said the author, should force the teacher to acquire an insight of the related disciplines, then of the more remote disciplines and to take up attitudes, to social and political events which are taking place in the world. His relations to his pupils' parents established through the pupils, are also facilitated or hampered by his own social practice, by his knowledge of the world which surrounds him and by his direct participation in current events.

The author pointed out that without a versatilely developed teacher we shall not be able to educate a versatile and harmonious young personality. It is therefore necessary to care with equal conscienciousness and purposefulness for the development of the teacher's personality with regard to his specialization and to his versatility.

The content of all forms of the further education of teachers should incorporate pedagogy and psychology in the light of new approaches and findings, the field of emotional education, knowledge of environmental control, aesthetic approaches and general orientation in the cultural wealth of one's own country. Here we shall not be concerned with the teacher's further encyclopaedic knowledge but with indicating approaches and ways which the teacher will take to the young person and will help him to understand more quickly and correctly the world and his own self as well as the role of the individual in developing contemporary society.

D. Kulich /CSSR/ in his communication: "Psychological disciplines and the further education of college and university teachers" proceeds from the postulate that the teaching has ceased to be the principal characteristic of the teacher's work in higher education. The education and stirulation functions are becoming prevalent.

It therefore ensues that the teachers themselves must revaluate and reconstruct the criteria and characteristics of the teaching profession. The forming of the personality of the individual, the student, as well as of the teacher, is coming to the fore. This educational aim of higher education cannot be attained without the necessary theoretical and practical pedagogical training.

The college and university teacher, said the author, bearing influence on the student must proceed:

- from the knowledge of his personality /the history of the individual, the formative influence of the environment, the current structure of the personality, prospects and possibilities of further changes/,

- from the constant realization that the effects of external influence are refracted by the inner structure of the individual /the student responds only to those stimuli which are in tune with his own structure/,

- from the knowledge that harmonious influence is the prerequisite for the active participation of the student in his own formation and at the same time the postulate for the positive attitude of the student to his teacher,

- from the fact that in the process of formation the teacher becomes familiar and forms also his own self; this is an indispensable pre-requisite of the successful influence of the teacher's personality,

- from the requirements that the teacher should conceive education not only as his own influence but as the influence borne by the whole collective of teachers /the influence of a social group, its structure, hierarchy, relations, etc/.

The analysis of the thus classified influence of the teacher shows the significance of the psychological disciplines in the pedagogical process for the teacher.

The definitive expression of the teacher´s personality - his pedagogical mastery, is only formed in practice, stated the author. The question remains of the length of this formative period. Specialized knowledge has reached the desirable standard, but there is a lack of adequate pedagogical and especially psychological foundations on which should be built the subsequent levels of the teacher´s personality in practical work.

The results which have been attained so far in raising the qualifications of college and university teachers, said the author, have been based on systems which were not unified, had a diverse content, different course and evaluation of the attendees of the courses. All have been marked by the effort for raising the standard of the teacher´s psychological knowledge and its practical implementation.

A. Panayotov /Bulgarian PR/ in his communication "Psychological theories of the staged formation of mental operations and the development of the methodology of subject teaching" based on his own study focused on the development of the methods of biology teaching in the Bulgarian People´s Republic presented certain generalized facts related to the given problem area.

It was found that teachers of different subjects in their work lean primarily on diverse methodological literature, such as illustrates the standard of the development of the respective educational discipline, i.e., the method of the instruction of the given subject. Its standard depends on the level of coordination of the achievements of pedagogy, educational psychology and didactics.

The author pointed out that one of the possible ways of accelerating the development of the methodology of subject teaching /the survey was concretely focused on the instruction of biology as a science/ was the acceptance of some of the existing psychological theories related to instruction and knowledge acquisition. In this case the survey was concerned with the implementation of the theory of the staged formation of mental operations in botany and zoology teaching.

In conclusion the author presented knowledge obtained in the survey and its generalization:

- The aims were attained, i.e., biological knowledge and indicated procedures of cognitive activity were formed; teaching based on the constructed model of orientation makes it possible to improve the control of cognitive activity and to raise the effectiveness of teaching as such.

- The implementation of the requirements of the theory of the staged formation of mental operations places new demands on the authors of text-books. The authors of new text-books will have to become acquainted with these new demands and will have to learn to solve them.

- The acceleration of the development of the methodology of subject teaching /any subject/ and the synchronization of this methodology with the current development of pedagogy, educational psychology and didactics is the most reliable way to guarantee that all subject teaching will correspond to the development of the educational sciences and to the general development of society.

J. Skácel /CSSR/ in his communication: "The application of sociolinguistics in teacher education" clarified certain basic concepts of sociolinguistics as a linguistic discipline which deals with the relations between language and society.

The basic field of sociolinguistic study, said the author, is the function of the language in society, contacts between people and their language, the problems of language policy,

i.e. the influence of society on the development and functioning of languages. The specificity of the relationship between sociolinguistics and the educational sciences consists in the share of sociolinguistics and pedagogy of the determination of the aims and methods of language training.

From the point of view of sociolinguistics, said the author language instruction is a social activity in which, observing the theory of language teaching, the students are taught to use certain languages in accordance with the development of social relations in concrete social groups.

Language instruction comprises:

a/ the development of the language abilities of the student in his mother tongue and in other languages,

b/ the acquisition of knowledge, skills and habits in speech activity,

c/ the cognition of the structure of language units and laws for their use in speech activity.

In language instruction the effort is becoming ever more manifest to teach the speaker /writer/ to use the language in compliance with the character of the social relations of the given socio-economic formation.

The aim of language instruction /and with it the aim of the education of language teachers/ will increasingly approach the results of the evaluation of the language in society. In the Czechoslovak Socialist Republic, for instance, the social functions of Russian in socialist economic integration are used for language instruction.

Sociolinguistics, said the author, is still an informative discipline in teacher education. This does not, however, correspond to the possibilities which it offers for specifying the aims of language instruction. In teacher education sociolinguistics should become that discipline which orientates this education in such a manner as to allow the teachers to attain diverse aims of language instruction and to materialize these aims if necessary.

In view of the fact that the teacher controls the teaching process it is necessary, concluded the author to educate him in such a manner as to enable him to control the processes of acquiring language abilities, masstering the necessary types of language activities and the foundations of the respective language system. For this he needs to know the fundamentals of sociolinguistics.

L. Stanoyev /Bulgarian People's Republic/ in his communication: "Post-graduate further education of educational personnel in the Bulgarian People's Republic" stated that in the past three decades the post-graduate qualification of educational personnel in the Bulgarian PR is formed and intensively developed as an objectively necessary condition with a certain specific social function in the educational system.

Its existing system in the BPR is characterized by certain significant characteristics of which the author emphasised the following:

- it is part of the unified system of the post-graduate education of personnel in Bulgaria,
- periodically every 5 - 7 years it safeguards the basic forms of further education for all educational personnel,
- the complex nature of education, i.e., teachers are provided with both theoretical and practical training in harmony with the novelties which come up in the content of teaching and in the methodology of educational work,
- the basic means is the actual development of the educational system; post-graduate education safeguards the continuous rising of the qualifications of teachers and senior educational personnel, i.e., the main factor in the educational system,
- further education of all educational personnel which is assigned to various forms of further education is free of charge.

In 1978 more than 20 per cent of the total number of educational personnel in the Bulgarian PR, i.e., approximately 130,000 persons attended post-graduate day courses lasting more than 6 days.

The future development of post-graduate education of educational personnel, said the author in conclusion, the same as the development of this form of study will be closely linked with the socio-economic and cultural development of the Bulgarian society and thereby also with the demands which are placed on education in connection with this development.

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The following conclusions ensued from the papers and communications related to the 4th problem area:

Social development in dependence on the currert social system and from this the ensuing position of man in society place demandson the education on the young generation. The safeguarding of the high standard of the process of education for all children is becoming the basic need in the implementation of social progress. From this follows the growing significance of the school in our time. It is necessary to better meet the increasing demands placed by society on the school.

The further development of education such as would correspond to the social demands requires highly qualified teachers who have acquired allround training for their work, who understand fully the meaning, aim and responsibility of their work and will let themselves be guided in their practical work.

The desirable conditions for forming such teacher are:

- the timely selection and long-term preparation of student teachers for study,
- the systematic study procedure from introductory pedagogical and psychological guidance to practice,

- the acquisition of extensive knowledge of the educational system, the development of specifically pedagogical thinking and aptitude for creative work,
- the necessity of continuous further education and the formation of the need of life-long education,
- the pedagogical control of pre-service and in-service education of teachers.

The science of education bears a great responsibility for the pre-service and in-service education of teachers. It will therefore be purposeful:

- to accurately define the aim and content of the pre-service an in-service education of teachers with regard to the practical work of the teacher,
- to lead the teacher to the creative acquisition of pedagogical knowledge,
- to increasingly involve the teachers in the process of acquiring new knowledge and to broadly develop its innovative function.

Senior educational personnel should permanently secure the consistent fulfilment of current demands placed on the pre-service and in-service education of teachers.

The discussion revealed a number of problems which should be studied and investigated. They included, for instance:

- the personality of the teacher and his activity; the research yielded a wide variety of important knowledge in different countries. The characteristic of the teacher was also approached, i.e. - indirectly, /in the mirror behaviour of the pupils/.
  - empirically
  - globally /independently of the school level, the subject, etc/
  - with unfounded maximalism - nominalism
  - statically

The following problem should be solved further surveys:

- the profile of the teacher and the characteristics of the teaching profession; as concerns this problem area it will be necessary to conduct broader differentiated surveys in order to grasp the specificity of the teacher's work in different fields of education, subjects, etc.

In conclusion the participants recommended that the European Information Centre of Charles University for Further Education of Teachers should:

- organize another meeting of this type,
- promote the exchange of experience also using other media /publications, the exchange of documentation for the in-service and pre-service education of teachers, documentation aids, etc.

5th problem area: The Teacher as the Co-author of Educational Knowledge. Generalization of the best Experience Gained in Pedagogical Practice as the Source of the Development of the Science of Education. The Development of the Pedagogical Creativity of Teachers.

The discussion related to the 5th problem area was opened by the keynote paper presented by M. Hargaš /CSSR/, the response papers were delivered by G. Metraux /Switzerland/, H.D. Black /UK/ and W. Berger /GDR/, taking the floor with written communications were W.B. Dockrell /UK/, L. Halberštát /CSSR/, J. Koudela /CSSR/, M. Hank /GDR and E. Marušiak /CSSR/.
M. Hargaš /CSSR/ in his keynote paper proceeded from the postulate that in the conditions of the scientific and technical revolution science is becoming a production force. As a result the mass development of people and of the creative force of each person becomes an integral component and independent factor of the growth of the production forces.

This statement puts the significance of educational science, its standard, effectiveness, accessibility, the conditions, and ways of its development and implementation into the focus of attention.

The importance of prompt educational knowledge, said the author, is currently all the greater because in the conditions of the scientific and technical revolution we are witnessing dynamically changing conditions of education, the changing and expanding function of the school. In it the teacher remains the principal factor in the pedagogical process, his role, however, changes owing to changes in society, in sciences, technology and in the actual system of education. This requires from the teacher not only a ready adaptation to the newly arising conditions but also the ability to implement in these conditions the new aims of education in a qualified manner.

This need of professional adaptability and mobility of teachers is expressed in the Czechoslovak project of the education

of teachers and educational personnel by stating several basic demands, i.e.:

- to prepare the teacher as a broadly specialist profiled capable of adapting to diverse concrete conditions of educational work,
- to conceive the content of teacher education as an open dynamic system which allows the teacher to improve, complete, update or upgrade his specialization according to social needs.

The implementation of these demands assumes that within the new Czechoslovak concept of the content of teacher education teachers will not only be able to acquire the latest scientific knowledge but that they will acquire such education which will allow them to capable independently and actively grasp this knowledge, creatively implement it and enrich it. To achieve this aim it appears indispensable especially to:

- deepen the pedagogical training of teachers in the stage of their pre-service education at higher education level, to acquaint them with the methodology of educational research and with accessible methods of scientific research in related scientific disciplines,
- in the system of in service education to enable the teachers to penetrate more deeply into the substance of the complex and differentiated educational process, to involve them in experimental activity and educational research,
- in order to raise the standard and effectiveness of the educational work of teachers to develop their aware educational creativity.

The significance of the development of the educational creativity of teachers comes to the fore, said the author, especially in our time. The Czechoslovak school is facing an extraordinarily significant task, i.e., to apply the latest scientific and technical knowledge for implementing the content and organizational restructuring of education, to modernize its content, methods and organization. The degree to which

these aims are attained depends on how unity of educational theory and practice is achieved in the process of restructuring, how effective educational theory will prove to be and how applicable it will prove to be in the differentiated conditions of concrete educational practice.

In his keynote paper the author went on to inform the participants of the methods and forms used in the Czechoslovak Socialist Republic for implementing the said requirements for activating teachers in the field of scientific educational work:

1. In the Czechoslovak Socialist Republic all teachers, so far with the exception of nursery school teachers, are educated at institutions of higher education. New curricula and syllabi of teacher education which are gradually being introduced allow the attainment of a higher standard of pre-service theoretical and practical education and training for in-school and out-of-school education.

A significant form of the self-education of teachers is organized specialized student activity.

Despite these positive factors and aspects of teacher education it appears to be very urgent to further deepen and expend educational psychology study courses, namely in certain related and marginal scientific disciplines.

2. The pedagogical education of teachers of technical subjects should be provided not only by the existing complementary in-service pedagogical study courses but also by parallel pedagogical education during the pre-service study course. Such courses should be run by departments of pedagogy at the respective technical colleges.

3. High demands placed on the professional profile of teachers are to be applied also during the admission of entrants to colleges and universities training for the teaching profession. Therefore the criteria for admission put emphasis not only on the marks which the student has obtained but also on his pedagogical gift for creative and involved educational activity.

4. The deepening of the pedagogical education of student teachers and the closer linkage between educational theory and practice will be enhanced by closer cooperation between research and educational institutions and institutions of higher education, by the development of educational research at institutions of higher education and by building up a network of experimental, practice and demonstration schools and educational installations which are to become the centres of vanguard educational practice.

5. The implementation of significant forms of the scientific education of teachers is made possible by the gradual development of the unified system of the further education of teachers in the Czechoslovak Socialist Republic which mainly comprises:

- the further education of teachers conceived as a follow-up on completed university education enabling its upgrading, deepening, updating, innovation, extension, possibly specialization,

- the education of teachers for scientific pedagogical work in form of specialization study courses oriented to educational research, i.e., the study of teachers - research workers,

- the hitherto most widespread form of involving teachers in specialized educational work, i.e., organized educational creativity, namely educational readings; this form of education is mainly oriented to the generalization of progressive educational experience in defined areas of educational activity namely in the field of methodology.

The question of the creative educational activation of teachers, concluded the authors, is currently so important and the social mission of teachers who form the educational, qualification and ideological and moral profile of the young generation is so responsible that it is worth while to contemplate the questions of improving educational work and to spare no efforts and means for its elevation.

G. Metraux /Switzerland/ in the first response paper: "Sources of scientific information for teachers: courses for teachers or participation of teachers in research" said that long years of experience have shown that the participation of teachers in research and educational development represents a relationship betwsen theory and practice which is much more fruitful than the mere organization of courses and in-service courses for teachers. In this respect, said the author, his institution in Geneva which is linked to the respective school administration body seems to have favourable conditions. Its researchers and selected teachers are developing and evaluating school innovation programmes at the level of programmes structure methods and techniques, it organizes general examinations and supervises the activity of school psychologists working in schools. The teams composed of research workers and practitioners are occasionally or permanently joined by one or two professors of the university´s faculty of psychology and science of education. Thus work can proceed in direct linkage with the school reality of the teachers, with a knowledge of the requirements of the administrative bodies and with the theoretical contribution of university research. Cooperation between these three partners gives an excellent guarantee of comprehensiveness and practical implementation of the work done. Experience has shown that contacts are established already at the stage of the formulation of the research requirement.

Progress from theory to practice, said the author, does not take place without difficulties. These difficulties ensue from the position of the science of education, the character of educational goals and the attitude of the teachers.

The teachers find it difficult to realize the contribution of the science of education to the teaching process if they are not helped in the determination of its function. The science of education will thus assume its immediate and beneficial role when it bring into practice applicable facts and rules. This This first category of its function includes the psychology of learning. The science of education has a critical function by considering education as the object of study. This is mainly the case of educational sociology. And third, the science of education plays a purely scientific role by elaborating schemes explaining educational practice.

In conclusion the author lists several conditions which enhance the dissemination of educational information among teachers. He believes that the first will be more or less wishful thinking because it requires that teachers and researchers are agreed on aims.

Orientation to an interdisciplinary study, to the systematic approach to problems could be a considerable achievement.

A structure of research could be developed which could help overcome mutual criticism because otherwise the exerted endeavour would be futile.

From the beginning of their teaching careers the teachers should be involved in research - this would develop in them a more scientific, more objective and more modest approach.

On the other hand theoreticians in the universities and researchers in research institutions should regularly work in practice, i.e., at classroom and other levels of the school.

H.D. Black /GB/ - in the second response paper: "Teachers in research - a Scottish case study" proceeded from the fact that teachers have come to play a little more than a passive role in educational research and that almost all work being done in this sphere comes from research workers.

The author described the work of the Scottish Council for Research in Education which in the Diagnostic Assessment Project sought a new relationship between teachers and researchers. In it the development of diagnostic instruments and tests, their evaluation and the evaluation of wider issues such as the teachers reaction to the concept and the practicability of applying it had to go together. The solution was to adopt a Collaborative Research methodology which saw the researcher as an "enabler" providing expertise in prat of the teachers' work which they themselves considered important. Six case study departments were chosen and teachers and researchers collaborated in the design, implementation and evaluation of diagnostic tests, instrument and feedback systems for small parts of existing courses. In addition the researcher tool on the role of evaluating the wider issues of practicability and coordinating the work of the various departments.

In collaborating with teachers as equal partners in research activities the researchers found themselves breaching barriers which are seldom penetrated and in so doin encountered a range of problems and potentials.

Perhaps the most obvious considerations are logistic. When the researcher is collaborating with the teacher the researcher's facilities are tailored to the research purpose. In the teacher's situation there are many problems, by and large the system does not recognize teacher research as legitimate in terms of time and resource allocation. As a result there is continual pressure on the teacher from the immediate workload which makes it difficult to keep up the momentum of the research. This should be recognized and carefully considered in the research programme.

Support is another relevant logistic consideration. The researcher may have the facilities for frequent discussion of his problems with his specialist colleagues but the teacher is normally working in the vanguard of development. A research consultant in the school would have been a considerable benefit to the teachers.

A second set of considerations centres around the differential expertise of the collaborators. A frequently made criticism amongst the teachers working on the project was that their initial and in-service training did little to help them adopt a research approach. The ability to focus on a particular problem and to apply his professional expertise in terms of experience of trying to deal with it in the classroom is much more important than attempting to parallel the experience of researcher; it is in the fusion of the two sets of experience that collaborative research works to advantage. Perhaps more problematic to the continuing research programme is the differential perception of the two parties. The teacher and the researcher may agree to focus on a particular problem but may have different views as to what requires to be done. This leads to the impact that the two parties are likely to make on the research itself.

Another set of considerations which affect the research is the influence of the researcher himself. What effect does the presence of the researcher have on the teacher and what role should he adopt? The greatest problem is the possibility of dominating negotiations. A greater problem is that the researcher through formulating the research proposal will inevitably have predispositions to the topic in hand which the teacher has not yet had time to conceptualize. It is only too easy at this stage to adopt an action or even a pure research approach through misreading the readiness of the teacher for collaboration.

The influence of the researcher and the research may also cause conflicts within the school for the collaborating teacher. All of the teachers involved in the project have to

a great er or lesser extent been subjected to a process of thinking about their teaching unusual amongst their colleagues.

Collaborative research inevitably demands recognition of its unique characteristics at the report stage. As with any form of research this must be an unambiguous statement. Of the outcome of the programme with a clear definition of both the theoretical under-pinnings of the work and the limits imposed by the chosen methodology. The collaborators, however, bring different sets of advantages and disadvantages to the report. At the logistic level the researcher will have apportioned a substantial part of his time to the report stage while the teacher must fit it amongst the continuing pressures of the classroom. The result of this is a danger ot the teachers perception which is at least as relevant and valid as that of the researcher will suffer in its length and depth of presentation. This is compounded by the established viewpoint that the jargon-dominated academic style of the researcher with frequent references to statistical data is somehow preferable to the apparently subjective viewpoint of the teacher. The collaborative research report is then likely to be different to that of the traditional research report- the important point to bear in mind is that it is neither better nor worse, just different.

To enseer the question of whether teachers should be involved in research the author points out that research is generally recognized to be an essential element in the educational system. He suggests that the teaching profession should be taking a much more active part in objectively investigating the many problems and issues arising from the dynamic system in which they work. If for this reason only there can be no doubt that teachers have an important role to play in research.

However, adds the author, it would be patronizing to suggest that teachers should take part in research because it would be good for them. A much stronger argument is that their involvement would produce better research.

The author pointed out that it must be made clear that by putting forward these arguments he was not advocating the dismissal of existing research specialists in favour of a new inspired teaching force nor indeed was he arguing that collaborative research with teachers was the optimal methodology for all educational enquiry. His argument was, however, that first the teachers themselves should be willing to take a research perspective on their own practice and second that where appropriate researchers should seriously design their work to allow the active participation of teachers at all stages.

H. Berger /GDR/ in the third response paper: "Participation of teachers in educational research" focused on the characteristics and evaluation of the importance of the participation of teachers in educational research /in pedagogical experiments/ conducted by the research team at the author's research institute.

The said research team studies the laws and optimal variants of the moral education of youth in the pupils' collective. It proceeds from the methodological postulate that the scientific basis for methods used for establishing educationally effective relations between the personality of the individual and the collective should be founded on a pedagogical experiment in school practice.

The research team includes ten teachers who were asked to join it from the very beginning for their creative endeavour in the application of the theory of collective education and who showed interest in acquiring new knowledge for improving their educational work by scientific methods. In the course of the ten years which have elapsed since the launching of the project the interest of some of these teachers in the project has intensified to such a degree that they have been able to write monographs about the results of their pedagogical experiments at the level of doctoral theses, diploma theses or have written articles about the results of their work which have been published in specialized journals. All teachers working on the

research team have been publicizing the theory of education through the collective in the further education of teachers. The most important effect of their participation in the research project consisted in that with the help of other teachers and staffs they have helped improve the pedagogical process and have contributed to increasing its effectiveness.

The teachers who worked on the respective research team have decisively contributed to specifying, differentiating and establishing a close linkage between the general problem of the conducted research, i.e., the optimal pedagogical use of objective laws of the life of adolescent youth in pupils' collectives for the development of individual moral awareness and behaviour.

The author expressed the belief that the collaboration of teachers is indispensable in formulating the hypotheses of pedagogical experiments mainly because the teachers, thanks to their experience and their active function in the educational process, are able to elaborate well founded and justified hypotheses on the most purposeful aims, content, methods and forms of interaction between the development of the collective and the personality. The teachers deep knowledge of the factors and conditions of the collective life of pupils and its pedagogical direction makes them specially competent to conceive the operational components of the solution of the research problem adequately to the respective subject.

The most significant contribution of the teachers, as creative personalities who are forming the educational process in compliance with the requirements of the research task, to pedagogical experiments is that thanks to their pedagogical abilities they are able to safeguard the concrete influence of the pupils collective on the development of the personality of the individual pupils.

Specially important for the results of the research are the teacher's possibilities to apply methods for investigating the interaction between the development of the personality of the individual and the collective.

The observation of the social behaviour of pupils which are the object of the pedagogical experiment and the investigation of the moral attitudes, feelings and volition of the pupils through discussions and interviews in natural educational situations are the most important method of observing the changes which have taken place in their moral awareness and behaviour, said the author.

Thanks to their closer links with the pupils' collectives and their intimate relations with adolescent youth the teachers who are taking part in the research project have favourable social, time and space and situation conditions for observing pupils and for discussions with them about their relationships to the collective and to society. Another contribution of the research project is that the teachers have been successful in penetrating problem areas related to the development of the collective and of the individual in adolescent age. The teachers participating in the work of the research team have therefore significantly contributed to the practical implementation of one of the most important methodological principles of research, i.e., to observe and to enhance the crystallization of conflicts inside the pupils' collective as the driving force of its development and the recognition of the principal characteristics of its functions and structures.

The teachers on the research team, concluded the author, are preparing for their collaboration in pedagogical experiments by the study of basic and selected specific problems of the theory of collective education and methodology as related to the specific research task and by the study of the methods of educational research. Those who take part in research and will present a thesis related to their work will be given the opportunity to study for a scientific degree.

W.B. Dockrell in his paper "The teacher and the Science of education, the Scottish experience" described the experiences of the Scottish Council for Research in Education over the past 50 years in the study of education as a means of improving instruction. Particular attention is paid to the involvement of teachers in this process including teachers' contribution to new scientific discoveries, teachers' use of scientific information and teachers' attitudes towards the scientific study of education.

The context in which educational researchers work in Scotland is a little different from that in many other countries. Education in Scotland is largely a local responsibility The Scottish Education Department lays down broad parameters for instance the period of compulsory schooling /from 6-16 years of age/; the organization of secondary schooling on a local comprehensive basis, not on a selective basis as in the past: the design of buildings, the provision of school mealsand school transport. The curriculum though is the responsibility of the school. Indeed schools are required to devise certain elements in the curriculum which are appropriate to local circumstances. There is, however, in practice general agreement on the basic structure and content of the secondary curriculum. There is much greater variation among primary schools. All primary schools accept that it is their fundamental responsibility to teach the basic skills of reading, writing and arithmetic. Apart from this broad agreement there is great diversity among schools in how these skills should be taught and what additional elements there should be in the curriculum. The curriculum within the secondary schools is much more uniform for two reasons. There are external examinations which are taken at the end of the 11th and 12th years and there is a curriculum development service which produces indigenous textbooks and instructional materials; of these the most significant is the external examination and there are alternative examinations set by the English examination boards for which many schools enter pupils. Schools therefore have a choice of the Scottish certificate of Education or one of the several English certificates. It is clear that the

external examination which in some schools is taken by all pupils and in all schools by over 80 % of pupils plays an important role in determining the curriculum.

More interesting from the point of this Colloquy, said the speaker, is the influence of the work of the curriculum development centres. Revised curricula have been developed in recent years in Scotland as in many countries in science, mathematics, social sciences, the mother tongue and recently second language teaching. In a recent survey of a semple of schools we found only one secondary school which was not usin the materials developed by the Scottish Mathematics Group and no school was not using the materials developed by the Scottish Integrated Science Group, he said and went on to answer the question of why Scottish schools were more willing to accept scientific developments than English schools.

He said that since the 1920's in Scotland all secondary school teachers have been required to hold a degree obtained at a university and then to have attended a College of Education for a programme of teacher training. Consequently the level of academic competence in the subject matter area is high and there is at least some knowledge of the science of education on the part of all school teachers. A second factor is the high prestige given to the scientific study of education in Scotland. There is a tradition of the scientific study of education in Scottish universities stretching back for over a century.

The author then went on to give a detailed description of the extent and quality of the study of education in Scottish universities, documented the open attitude of Scottish teachers to the science of education and illustrated experiences gained by his organization, the Scottish Council for Research in Education and its close collaborator the Scottish Teachers Union. He recalled the establishment of the Scottish Council for Research in Education in 1928 by the two unions and by the local education authorities. For over 40 of those 50 years the Council

was housed in the headquarters of the teachers' union. The financial and business affairs of the Council were administered by the Union for that period. Initially half of the cost of the Council's researches were paid for by the Union and half by the local authorities and the Union has continued to be a major financial support for the work of the Research Council. The nominees of the teachers' unions are the largest group but not the majority on the board of management which governs the affairs of the Research Council. The Council, therefore, has been closely and continuously in contact with teachers through the teachers' union.

This contact is not a mere formality. The teachers through the unions play a major role in shaping the programme of the Research Council. The most obvious way to do this is by directly commissioning research in certain areas. The speaker added that he did not wish to create the impression that the teachers alone determine the research programme of the Council - some of the projects arise out of the scientific concerns of researchers themselves, others are commissioned by local authorities, by branches of the central government, etc. The focus by scientists on educational problems of direct relevance to teachers and teaching is one consequence of the close relationship between the Council and the teachers' unions. There are other which are equally important, namely the attitude of teachers to scientific research. The Research Council produces a twice yearly bulletin called Research in Education a copy of which goes to every teacher in Scotland, and a recent small scale study of teachers' reading of professional publications showed that nearly all teachers were aware of the publication and a third of them could summarise at least one recent research report. The other major effect of the attitudes of teachers was their participation in research. The Council provides research grants for teachers to carry out their own research studies, individually or collectively with or without guidance of professional researchers. These pieces of research are rarely of general significance what is important is that they imbue teachers with the scientific attitude

Much more important is the role of teachers in planning and carrying out collaboratively with research scientists major programmes of research. The Research Council has a sound start because of its intimate relationship with the teachers´unions and its continuing emphasis on the participation of teachers in scientific studies at all levels from planning committees to fieldwork, concluded the speaker.

L. Halberštát /CSSR/ in his communication "Creating conditions for the development of the creative work of teachers" dealt with the participation of the Trade Union of Workers in Education and Science in the Czechoslovak Socialist Republic in creating conditions for the development of teachers´creative work which it considers to be its primary task both with regards to the interests of society and with regard to the professional in erests of the teachers themselves.

Trade union branches in schools, said the author, present initiatives for stimulating the development of the pedagogical creativity of teachers and its inclusion in the plans of schools and other educational installations and within their rights evaluate their implementation. The trade union branches orientate their meetings to the creation of conditions for solving concrete problems and tasks related to the educational process and put forward initiatives aimed at safeguarding the practical implementation of experience gained by outstanding and creative teachers in their own school. The trade union branches stimulate the effort of the headmasters to enhance the creative work of the teachers by initiating thematic tasks with special wards aimed at developing those fields of the educational work of the school where it is necessary to creatively apply new knowledge of the science of education.

The trade union branch in cooperation with the headmaster organizes working meetings. The aim of such working meetings is the collective evaluation of suggestions for the solution of current problems of the educational process.

The trade union, continued the author, also devotes great attention to its branches which operate at institutions of higher education. Its members influence the orientation of the themes of diploma theses of the students, the themes of the post-graduate diploma theses of teachers in such a manner as to secure the practical implementation of new scientific knowledge in educational practice and on the other hand to secure the acquisition of knowledge of problems arising in educational practice. The trade union branches devote attention to the development of student scientific and specialized activity.

Teachers in basic and secondary schools are employed by the departments of education of district and regional national committees. Their trade union partners, i.e., the district and regional committee of the respective trade union conclude collective contracts with them for every school year. These contracts also include the development of the creative work of teachers.

The problem of pedagogical creativity is incorporated in all forms of trade union schooling, said the author.

The exchange of educational experience is served by agreements on twinning concluded between trade union branches in schools of the Czech Socialist Republic and the Slovak Socialist Republic, between schools in the Czechoslovak Socialist Republic and schools in the other socialist countries, by meetings and seminars organized by the State school administration especially for young teachers addressed by outstanding awarded teachers and instructors and by staff members who have attained outstanding achievements.

The trade union strives for the dissemination and application of experience gained by educationalists in the other socialist countries, namely in the Soviet Union, this through the study of the literature, journals and periodicals, etc.

In the Czechoslovak Socialist Republic there is a long tradition of national meetings of teachers and other educationalists. The trade union of workers in education and science is the co-organizer of these national events, within whose framework the

participants meet with the representatives of teachers from the best schools whose work has been awarded on the occasion of Teachers´Day and whose experience is transmitted to all teachers through the trade union press.

One of the significant forms by which trade union participate in the development of the educational creativity of the teachers and presentat initiatives for pedagogical theory is the cooperation between the bodies of the respective trade union and the school administration aimed at creating conditions for the development of educational readings. Educational readings sum up teachers experience with the application of the science of education to their respective subject, educational institution and generalize successfully applied educational procedures, concludes the author.

J. Koudela /CSSR/ in his communication "Retrieving the best experiences of teachers of economic subjects and their transformation into educational knowledge" based on the author´s own research contribution to the constitution and development of the theory of the instruction /methods/ of economic subjects in the Czechoslovak Socialist Republic states that in the field of secondary economics education and in the instruction of economics subjects the said theme has great importance.

The background for identifying the experience of teachers, its verification and for educational experiments is a significant contribution to the development of scientific work.

The principal components of this background in our favourable conditions in the field of the instruction of economics subjects are listed by the author as follows:

- a considerable number of economics secondary schools, i.e., secondary schools at which economic subjects are taught, the traditional interest of the teachers in these schools in pedagogical, methodological and specialized aspects of the instruction of these subjects and in their innovation,

- the good complex and detailed knowledge of the content and pedagogical problem area by research workers, the knowledge of the material and personnel situation in the schools,
- the close linkage between the educators who train intending teachers of economics subjects with the schools at which the student teachers will work /including cooperation in the development of the content of education, teaching and other pedagogical documents, text-books, etc./,
- the purposeful suppport of superior educational bodies and research institutes,
- personal relations between research workers and workers of departments of pedagogy and teachers of economic subjects and headmasters, close and permanent relations with them /the teachers of economic subjects and headmasters of economics secondary schools are all graduates of the department of education of the College of Economics/,
- the existing adequate institutional basis and periodicals which serve the exchange of experience and the publication of scientific knowledge,
- the possibility of the international confrontation of the results of scientific research and exchange of experience.

The sources of the best experience and knowledge of teachers of economics subjects and ways of acquiring, collecting and retrieving such knowledge and experience include:

1. Experience of teachers of economics subjects published in specialized journals. Educational readings of teachers of economic subjects /reagional, central, etc/, specialized studies methodological handbooks published by experienced teachers, text-books, study texts, material and documents put out by the school inspectorate, reports and records of inspections, observations, visits, examinations.

2. Holiday and other courses and seminars, courses for teachers, scientific conferences, seminars, discussions organized by the department of pedagogy or by research institutes and rela-

ted to economics, pedagogic and methods problems, the attendance of invited experienced teachers at discussions on partial and final research reports on scientific tasks, the work of these teachers as reviewers of theses, etc.

3. The use of school /pedagogical and methodological/ practice of student teachers of economics subjects at economics secondary schools for identifying methodological and other experience, visits to lessons of the best teachers, visits to their model lessons, seminars and discussions with teachers in post-graduate study courses and in complementary in-service study courses, the influence of experienced teachers as consultants and reviewers of diploma theses presented by student teachers of economics subjects and as consultants of teachers who are attending complementary pedagogical in-service study courses to gain a teaching qualification.

4. Cooperation in all stages of the preparation, implementation and evaluation of pedagogical experiments at economics secondary schools which are aimed at the further development of the Czechoslovak educational system.

The best experience of teachers of economics subjects is a valuable, albeit not only source of scientific knowledge. The transformation of this experience into scientific knowledge is a complex process during which it sometimes becomes evident that generalization is not always possible because the teacher's experience has been too subjective and its transformation into scientific knowledge will still amount to a certain creative process, concluded the author of the communication.

M. Haak /GDR/ in his communication "The teacher as one of the creators of educational information" stated that in his every day in-school and out-of-school work the teacher faces the task of implementing on his own responsibility social aims related to the field of education and of applying in a creative manner the educational knowledge which he has acquired.

The author therefore believes that the exchange of practical experience, its transmission, use and generalization has extraordinary significance.

The teachers of the same subjects in corresponding grades exchange experience in groups organized within the framework of one school or by neighbouring schools.

Individual and group visits and observations are organized to lessons and teaching units of the same subject - this is done to help the visited and visiting teachers.

These groups operate according to their own interests and needs, present the results of their work and ask for instructions and help.

The good results of this work and conclusions from these meetings and consultations may be written up as reports on experiences and submitted to superior bodies for examination.

In cases where the presented experience appears to be sufficiently significant the author of the oral or written report is recommended to further develop it into an educational reading which is a highly demanding form of the exchange of experience.

Next to educational readings which deal with the factors and situations on which scientific conclusions have already been reached the authors study such questions which have as yet not been sufficiently scientifically investigated. Such studies mediate very instructive views of the respective problems and are a direct challenge to research because they point to gaps in theory.

The knowledge of good experience and of successful educationalists, continued the author, is a must for all scientists who have been entrusted with curricula development, the development of teaching aids, the preparation of radio programmes for schools or who contribute to education columns in the mass media, or have been charged with their evaluation.

New demands placed on the school in the GDR, stated the author are a challenge for educational science to produce theoretically well-founded work which is orientated to practice. Science should proceed from the new level of thinking and work of teachers, from their creative ideas and experience in such a manner as to be able to provide qualified aid to work with curricula and with teaching aids.

The creative work of teachers in the GDR is used in all fields for enriching the educational sciences. This principle is observed among others by the fact that new measures are tried at experimental schools prior to their general introduction. After the introduction of novelties the results are scientifically studied by groups of scientists and practitioners. The teachers as partners of scientists in this work have an important role to play, concludes the author.

E. Marušiak /CSSR/ in his communication "Educational readings as one form of developing pedagogical creativity" analyses one of the significant and yet highly demanding aware forms of the pedagogical creativity of teachers and educationalists. Educational readings have a long tradition in the Czechoslovak Socialist Republic and are the result of the effort made by experienced teachers to solve the everyday problems of educational work. One occasion on which teachers present their educational readings are the Jan Nálepka Educational Days in Spišská Nová Ves in the Slovak Socialist Republic. The aim of the Days is to generalize progressive experience gained by teachers with teaching and educational work. The presented educational readings become a contribution to further educational work and prove that the teaching profession in this country can and has the possibilities to creatively and successfully resolve the most complex and most demanding educational tasks of our time.

The themes which are selected by national central commissions point to problems, ways of solution and results achieved in the whole system of educational work of schools of all types and levels, namely in subjects and fields of ideological and political character.

The results of the days, said the author, show that if pedagogical creativity is to become an effective factor in rais- the standards and effectiveness of the work of teachers it must gradually acquire a mass character, it must become a genuine pedagogical movement from which will grow tens and hundreds of pedagogical innovators, leading practitioners and methodologists as well as theoreticians with great experience capable of resolving the demanding and complex problems of current education.

The following conclusions resulted from the papers and communications presented within the discussion related to the 5th problem area.

The teacher has the right and ability to take part in research in various ways and to contribute to the development of science by his creative contribution.

In order to raise the quality and effectiveness of education it is necessary that the teacher should fulfil the tasks placed before him by society and by the pupils in a creative manner and in compliance with his educational mission. Appropriate conditions should be created to enable him to achieve this.

Research should continuously be stimulated by the progressive results of the teacher's practicle activity. These results should be continuously and carefully studied, analysed, compared, evaluated and generalized. The thus obtained results should be practically tested and verified as a team effort of teachers and scientific workers.

In the process of education the teachers should be provided with the appropriate conditions for creative work and for independent or team scientific work.

The discussion gave the participants the opportunity to become acquainted with valuable experience and revealed certain problems which should further be studied and investigated from the point of view of the teacher´s motivation for self-education, creative work, the solution of scientific problems, etc. Such motivation will include, e.g.,:

- cooperation in scientific societies,
- study groups, pedagogical laboratories in schools, membership in scientific societies and work in specialized school-based groups,
- the elaboration of educational readings,
- joint work in research within certain projects,
- agreement should be reached on the fact that teachers are stimulated to cooperate when they find that the research is oriented to their problems,
- agreement should be reached on the fact that the cooperation of teachers in the creative solution of tasks or in research should not only be related to teaching but also to social activities and to out-of-school activity.

The presented recommendations for further activity in this field included among others:

- to recommend to UNESCO to give its support to the idea of the creative activity of the teacher and his participation in educational research,
- to recommend to the European Information Centre of Charles University for the Further Education of Teachers to promote the exchange of good experience and in this manner to enhance the teachers´creative activity, their participation in research tasks, thus contributing to the development of the personality of the teacher and the further development of educational research.

CLOSING DISCUSSION AND RECOMMENDATIONS OF INTERNATIONAL COLLOQUY

The penultimate session of the Colloquy was devoted to a discussion on possibilities of international cooperation in the given field.

Following a very lively and interesting exchange of views the participants unanimously agreed to recommend the following points of possible cooperation to interested countries and institutions:

1. To prepare a case-study on the best strategies of introducing the results of pedagogical and psychological research and other scientific results into educational practice with the aim of raising its effectiveness.

2. To prepare and publish an international comparative study related to the subject: "Teachers in research" giving the most effective forms of the involvement of teachers and students in educational research.

3. To conduct an international survey identifying the sources of educational information most frequently demanded and used by teachers.

4. In international cooperation of specialists from the Czechoslovak Socialist Republic, the Soviet Union, the Hungarian People's Republic, the Bulgarian People's Republic and the German Democratic Republic to publish a monograph on the creative activity of teachers and its deliberate formation.

5. To prepare for publication and to publish an international collection of reprints related to the subject: "Progress of current pedagogy and educational psychology", possibly suitable also as a study material for the further education of teachers.

The closing session approved the conclusions and recommendations related to the respective problem areas.

Also approved was the Final Recommendation /see Supplement C/1/.

The Final Report was elaborated and translated into the conference languages and distributed to the interested institutions and participants as had been recommended.

V.

SUPPLEMENTS

A. Supplements to Part I:

A/1 List of participants and observers

B. Supplements to Part II:

B/1 Keynote paper by S. Petráček:
"The teacher and the science of education"

B/2 First response paper to keynote paper by K. Tmej:
"Education of teachers as an object of research"

B/3 Second response paper to keynote paper by V.A. Slastenin:
"Educational Science and the formation of the creative attitude of the teacher"

C. Supplements to Part III - without supplements

D/1 Final Recommendations

SUPPLEMENT A/1

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SUPPLEMENT B/1

SVATOPLUK PETRÁČEK:

THE TEACHER AND THE SCIENCE OF EDUCATION

Dear Comrades, dear foreign guests,

we have met here for several days to discuss in a scientific debate the relationship between the teacher and the science of education and the importance of this science for the teacher.

The general function of education as we all well know consists in transmitting knowledge, art, ideas, social experience and behaviour from one generation to another. In this sense we conceive education as a perpetual category existing from the very beginnings of the history of mankind. In concrete terms the social function of education, its concrete content and substance change in the course of history and these factors are determined by existing material conditions of the life of society, by social relations, by the struggle between classes and ideologies. In a socialist society we consider education to be an integral component of the ideology and culture of the working class aiming at the construction of a communist society. The fundamental Marxist-Leninist concept of education ensues from the scientific cognition of the laws of the development of society, the historical mission of the working class and the concrete historical unity of policy, ideology and education.

History has proved to us that as concerns the teacher his mission and work have from the very beginning had great social significance. It is the teacher who is actively partaking of the development of the production forces of society, especially of the formation of man as the creator of all material and spiritual values.

Each of us and each of our fellow citizens has been through the hands of a teacher. It was the teacher who was the first to systematically bring us closer to everything that mankind had achieved in the field of culture and prepared

us for work aimed at the further development of the human society. It is the teacher who to a considerable extent predetermines what sort of a worker his pupil will be in the future and what kind of a citizen of society he will prove to be.

We all realise that the level of the implementation of the importance of the teaching profession, the same as education itself, depends on the socio-political system, on the nature of social relations. We, the socialist educationalists are convinced that the socialist system in which we live is that system in which the position of the teacher to a maximal extent corresponds to his social mission. Socialism has elevated the role of the teacher and has given his professional mission a deep social meaning. This is concretely brought out by the care devoted by the communist and workers parties and governments of the socialist countries to strengthening the authority of the teacher and to the systematic improvement of his working conditions. Socialist legislation fully guarantees the teachers' professional rights, the honour and dignity of the teaching profession and ranks the teaching profession among the most honorable.

In the socialist countries we approach the solution of the problems of the pre-service and in-service education of teachers in the context of their life-long education and the systematic development of educational sciences from the said positions.

The significance of the attitude of the teacher to the science of education and the importance of the science for the teachers may, we believe, best be characterized against the background of the system of the further education of teachers, in other words it may be demonstrated on the further education of teachers in the context of the teacher's life-long education.

The systematic, life-long education of teachers in the socialist educational systems has its characteristic features of which we shall mention only the most important ones:

First of all we proceed from the principle that it is the professional obligation of every teacher to perfect his pedagogical mastery in the course of his educational practice. The teacher fulfils this professional obligation by further raising the standard of his pedagogical mastery acquired during his initial teacher training, i.e., in the process of independent teaching practice by the systematic analysis and generalization of his personal pedagogical experience and by generalizing the pedagogical experience of the other members of the staff. This is the implementation of the principle which has many times been emphasised by leading educationalists of all times and which may be expressed by saying that the teacher remains a teacher only when he consistently instructs himself.

Secondly we proceed from the principle that the further education of teachers must be purposefully organized, controlled and supervised. This principle is implemented through a system of institutions for the further education of teachers. They are institutions of a methodological and educational character, i.e., central institutes for the further education of teachers, regional and district pedagogical institutes, methodological centres, Houses of Teachers, university and college faculties specializing in certain forms of the further education of teachers, school administrators, etc. These institutions are the centres of methodological work with teachers, they serve the dissemination of the latest knowledge acquired in the educational sciences and the best experience gained in educational practice. Very important in this system are local centres which serve the intensive exchange of the best experience gained in educational practice, an activity which gives these centres the character of self-education centres /possibly model and demonstration schools/.

Thirdly we have reached a stabilization of the basic groups of forms of the further education of teachers while preserving the diversity of forms inside the individual groups. Here we have in mind the further education of teachers implemented:

- on a part-time basis
- on a full-time basis
- by self-education

As concerns the part-time further education of teachers this mainly involves joint preparation and evaluation of instruction, the demonstration of certain methods and technical media of instruction, individual and group visits to lessons and subsequent evaluation, the exchange of experience in subject methods groups, active participation in conferences of class teachers, in school pedagogical councils, in working meetings organized together with the trade union branch, individual and collective generalization of pedagogical experience in educational readings and the defence of the presented paper.

A specific form of the further education of teachers is fulltime further education with release from work for study purposes, namely for attendance at various study courses. These courses are aimed at raising the teachers' qualifications in the theory of Marxism-Leninism, pedagogy and psychology, his subject and teaching methods. Various types of these courses /basic, subject-oriented, specialized, etc./, are usually organized for a period of 4 weeks. The principle is generally observed that every teacher should attend one of these courses with the aim of improving h[illegible]qualification once in every five years of service. The courses are organized according to a set curriculum and syllabus, containing informative indices as to content and organization of lectures, seminars, laboratory practice, etc., as well as lists of the literature recommended for independent study.

As concerns self-education the teacher in the socialist educational system has a wide variety of opportunities. They mainly consist in the independent study of existing literature, in attending lectures and seminars and consultations organized by various institutions involved in the further education of teachers /Houses of Teachers, pedagogical and other university and college faculties, the Socialist Academy, various public organizations, etc./, participation in the work of educational and methodological centres in schools, at pedagogical faculties, participation in scientific conferences and in educational readings, the use of the mass media, participation in the activities of educational information institutions, etc.

Forthly the basic structure has become stabilized of the further education of teachers and other educational personnel in the context of life-long education. It has three stages.

The first stage of the further education of teachers and educational personnel follows up on initial teacher training and secures the induction of the beginning teacher in the educational practice in his respective school. In the first year of service each beginning teacher attends purpose training, i.e., induction. Only after the completion of this stage of further education and after several years of service is the teacher assigned to the process of post-diploma study at an institution of higher education. The first stage of further education is completed with a complex evaluation of the results of the work of the young teacher. Following approval by his headmaster the orientation is suggested of the teacher's further professional development.

The second stage of the further education of the teacher has an innovation function. In the Czechoslovak Socialist Republic it is usually implemented in form of a two-year part-time study course without release from work, roughly after 6-8 years of service. Also this type of further

education is compulsory for the teachers. The aim of this second stage of further education is the further ideological, political, pedagogical and professional development of the teacher, the perfection and improvement of the standards of his educational work and the development of his allround educational creativity. This post-diploma study course is completed with the presentation of a post-diploma thesis and the passing of final examinations before commission appointed by the dean of the respective faculty. The innovation function of this stage of further education mainly consists in that the teacher will acquire new educational methods and will deepen and complete all components of his teacher qualification.

Considered as being equivalent to the said post-diploma study is the teacher's gaining an academic or scientific degree in the field of the educational or psychological sciences or a post-diploma subject study such as is necessary for raising his specialized qualification.

The third stage of further education is voluntary for the major part of the teaching profession but is highly significant for those teachers who outside their teaching practice have been appointed to or intend to take up certain functions in the educational process, e.g., vocational and educational guidance, methodology of the educational process, inspectors for certain levels of the educational system. This is the specialization level of further education in which the teacher systematically raises his qualification by different forms of study. This enables him to systematically update the scientific and methodological content of his education and of his educational work while maximally respecting the needs of society, in agreement with his talent and individual interest. Basically this is an independent form of study without release from work.

A significant characteristic of the second and third stages of the further education of teachers is the close relationship between further education and re earch work.

Next to the said three stages of the further education of teachers and educational personnel there is the continuously organized further education of teachers oriented to current problems of educational work. Significantly contributing to the further education of teachers and having an integrating function in this process is the ideological and political schooling of teachers organized by the schools in close cooperation with political bodies.

The fifth characteristic system of the further education of teachers is its diversity in function. It is oriented to the activity of the teacher both in school and out of school, it forms his personality, which in practice is manifest both in the teacher's concrete attitudes and in the standard of the performance of his profession. From the point of view of the performance of the teacher's profession it fulfils in all complexity the functions of adaptation, innovation, compensation, requalification, dissemination and specialisation with one of the said functions usually being prevalent depending on the type of further education.

Primary attention is focused on the innovation function of the further education of the teacher because this function relatively best enhances the implementation of the interrelationship between educational theory and practice, between the projects of the further development of the educational system and their implementation. Thus, for instance, in the Czechoslovak Socialist Republic the implemented reform of the educational system, which is an expression of the latest knowledge of Marxist educational theory and practice, stimulates the teachers to acquire new principles and to implement them as best as possible in educational practice. Indirectly this will arouse the need of teachers for further education.

The sixth characteristic of the further education of teachers is that it is not only related to the actual further education of teachers alone but also includes the further education of school administrators and other personnel involved in the educational system, in the further education of educational psychologists, vocational guidance workers and other personnel involved in other services provided by the educational system.

The seventh characteristic of further education of teachers is that the system of teacher education is conceived as an open and dynamic system which enables the teachers in the process of their life-long education to further raise their qualifications in compliance with the new needs of the development of the socialist society and with the trends of scientific and technical development. The mere fact that teachers are trained for the performance of their profession at institutions of higher education where they gain a qualification with a relatively broadly based profile enables them to successfully perform educational practice at different levels and types of institutions of the educational system.

As concerns the eighth aspect it is significant that the content of the further education of teachers accentuates the evenness of all elements of further education, i.e., ideological and political and moral, pedagogical and psychological and subject. The ideological and political education of teachers is considered as being that factor which integrates all education as a whole and allows the implementation of the logical inter-relations between the laws of the social sciences and the natural science. This education is the precondition allowing every teacher a good educator. The science of education comprises the traditional educational disciplines, especially general and comparative pedagogy, all components of the theory of communist education,

educational biology, educational sociology, the theory of educational management, the pedagogy of family rearing, the theory of out-of-school education, e.g., in children's and youth organizations, the pedagogy of cultural enlightenment work. All components of the system of the science of education are oriented to the solution of the principal problem of forming the communist view of the young generation and a harmoniously developed personality in the stage of the building of an advanced socialist society.

The ninth aspect concerns the further education of the teacher from the point of view of the needs of the further development of the educational system, i.e.,

- it partakes of the evaluation of the educational contribution of new educational and other knowledge, new creative works in the field of art, new phenomena in the life of youth and in the life of society in general,
- it stimulates and studies educational experiments, influences the development of new text-books, technical teaching media, etc.
- it helps effectively disseminate innovations in the content, methods and organization of the educational process /the implementation of changes/.

We consider the teacher to be the decisive factor in the implementation of the whole system of the further education of teachers - their motivation, the habit of independent study and use of leisure time for self-education have basic importance.

The relationship between the further education of the teacher and the performance of his mission is completely natural and is given by the fact that basically every teacher is also a teacher to himself. In the course of the performance of his profession the teacher gains rich experience which he analyses and generalizes, strives to apply the results of these evaluations and generalizations to educational practice and through self-education he strives to keep

abreast of the development of science, technology, culture, the educational system and society in general. It is logical that this changes his educational personality. The self-education of teachers is thus a significant component of the system of the further education of teachers. The activity of institutions for the further education of teachers and the individual forms of this activity are a systematic organized help to teachers in the implementation of their self-education programmes. These institutions become a forum for teachers at which they meet with their experienced and successful colleagues, come to understand their innovative ideas and learn to apply these ideas to the educational process. This generally known trend leads to the formation of organized groups of teachers, methodological groups, subject commission, etc., at different levels of organization, which often fulfil various coordination functions and in specific cases lead to teachers' participation in research activities.

The individual forms of the further education of teachers are considered to be effective if their implementation is closely related to raising the standards of educational activity and of pedagogical mastery - rationally they can only be implemented in a complexly and effectively operating system of further education of teachers. Such a system with personnel, material, technical, information and financial safeguards, operating as an integral component of the educational system, secures the flow of educational and other relevant scientific information from the authors of the information to the teacher and from the teacher to other teachers. It allows the teacher to be involved in purposefully self-education and this to attain a continuously higher political maturity, communist awareness, a more in-depth knowledge of his subject, a broadening of his general education, of his cultural and political outlook, allows the teacher to become aware of his responsibility to society

and to continuously improve his grasp of educational and psychological knowledge.

As concerns the relationship between the teacher and the science of education or the importance of the science for the teacher we have to attempt to resolve numerous complex problems which exist in this field.

The significance of the science of education - the sum of educational information - increases for the teacher with the further deepening of the scientific and technical revolution, a process which results in numerous new educational and other scientific information overcoming knowledge which has so far been considered relevant. The teacher feels the need of continuously educating himself and of maintaining his qualification at a standard which complies with the requirements of the time. On the other hand society demands of him that the standard of his pedagogical mastery be adequate to the needs of the development of education and of the educational system. In practice this means that the teacher during his pre-service training and throughout his whole life strives to acquire, collect and in the end also to create new scientific and educational information and to apply this information to his educational work. This seeking and creative activity is implemented by the teacher's participation in various organized actions aimed at and oriented to the further education of teachers as well as by purposeful, purpose-oriented and systematic self-education in which the teacher has the possibility of creating new scientific and educational information. In order to make this activity effective there are a number of conditions which have to be secured for the teacher's work.

Thus it is, for instance, necessary to

- secure the adequate and systematic provision of information to the teacher related to the latest knowledge in the field of the science of education and educational practice.

The teacher must be provided with sufficient information on the trends of the development of the science of education and educational practice, e.g., by organizing independent reading, attendance at meetings of successful educational groups, meetings with leading scientists, visits to purpose-oriented exhibitions, research institutions and libraries.

The correct social function of the self-education of teachers greatly depends on the standard of operation of various information systems in the given field, especially the system of educational information. The system of educational information must represent a unifying source of knowledge for scientific work in the field of the science of education as well as for the self-education of teachers.

- to enable the teacher to participate in the work of a team which is solving a selected scientific or educational problem,
- to require that the teacher who is involved in self-education should implement this activity according to a rationally developed individual plan of self-education comprising all necessary elements /themes, datelines, literature, etc./,
- to lead the teacher to make systematic and allround analyses of the achievements and failures in the organization of the educational process,
- to provide the teacher with material equipment corresponding to the needs of self-education /an adequate library with sufficient supplies of relevant literature, teaching and learning aids and educational media, methodological resource centres, etc./,
- to organize the systematic and purposeful supervision of the organization of teachers' self-education.

It would now be appropriate to ask what kind of educational information the teacher expects of the science of education and to what educational information he should contribute within the framework of his further education, namely within his self-education.

First of all this should be educational information relating to the relationship between society, education and pedagogy.

This mainly comprises the knowledge of Marxist-Leninist theory of education, i.e., the problems of the class character of education, the education of the allround and communist developed socialist personality, the formation of the scientific world opinion and communist morality, education in the collective and through the collective and becoming familiar with the criticism of the current bourgeois theories of education. Furthermore the knowledge of the basic principles of the educational policy and aims of communist education, i.e., the problems of acquiring the knowledge of the basic principles of educational policy, education in the conditions of an advanced socialist society and the aims of communist education. This also includes the problems of the specificities of individual development, i.e., the knowledge of the relationship between social conditions and individual development, the types of activity and individual psychical development and the basic stages of psychical development, knowledge of the general laws of the educational process, i.e., the analysis of concrete educational processes, their structure, the knowledge of the laws of relations within the organization of the educational process, the subject of pedagogy, the basic concepts in pedagogy, knowledge of the system of the science of education and of the methods of educational research.

Secondly this should be educational information relating to the educational process. Here we are concerned with the problem of education for communist awareness and behaviour /becoming acquainted with the aims and tasks of communist awareness and behaviour/, the whole problem area of the content of communist education /the content of communist education, the communist world opinion and morale as the basis of education, the content of ideological, political

and moral education, the content of education for work, aesthetic education, physical education, the unity and correlation of all components of communist education/, the problem area of the education of the personality in the collective /the importance of the collective in the process of the allround development of the development of the personality, youth and children´s organizations as the guiding and organizing forces of pupils´ and students´ collectives, the content of the individual types of collective activity and relations, the development of childrens´ and youth collectives, the pedagogical leading of children´s and youth collectives, the problems of the methods of communist education /the specificity and classification of methods in the process of systematic education, methods of education in practical public activity, methods of educational stimulation and conditions of the successful application of educational methods/ and finally the problem of the interaction of the educational forces of society in the process of the communist education of school children and students.

Thirdly this should be educational information related to the process of instruction. Here we are mainly concerned with questions connected with the substance of teaching in the socialist school, be it the problems of the aims of instructions, the general character of instruction and didactical principles. Furthermore this involves questions related to the content of instruction /problems of the significance of the content of instruction for the educational standards and education of the young generation the specificity of the content of instruction at the individual school types and levels, the content of instruction and the development of the pupil´s personality, subjects of instruction, the curriculum, the syllabus/, questions relating to the activity of the teacher and the activities of pupils and students in the educational process /the inter-relation between the

activity of the teacher and that of the pupils in the educational process/, questions relating to the organization of teaching /the system of instruction in the class, the teaching unit and its structure, the forms of organization of instruction, organization of elective subject teaching, the organization of teaching in different types of schools/, questions connected with the problems of teaching methods, the importance of technical teaching media and teaching aids for the methodological preparation of teaching, programming teaching processes and learning and its methodological significance, the selection and evaluation of teaching methods, etc./, questions related to the problems of respecting the individual specificities of pupils and students in the teaching process /the systematic familiarization with the pupils in the teaching process, respecting the specificities of pupils with lower achievement ratings, with high achievement ratings, the role of out-of-school work and the development of the pupils' potential/.

The fourth type of educational information should be such that are related to the problems of directing the educational process its organization at school level and the role of the educators. Basically we are concerned with problems related to the management of school collectives, the control of the educational process, of out-of-school work and question related to cooperation with diverse educational components of society. This problem area also includes information relating to the preparation of suitable conditions for the educational process.

Special attention should be devoted to educational information relating to the teacher, be they questions related to the teaching profession, the mission of the teacher at schools of different levels and types, the problems of the creative character of the work of the teacher, the initial and in-service education of the teacher.

Finally, the fifth type of educational information is such which is related to the problems of the development of

the unified socialist educational system.

This is primarily educational information on educational systems in other countries, namely in the countries of the socialist community, information on the socio-economic conditions of the development of the individual educational systems, their structure and prospects of further development. Also significant is educational information critically evaluating the character of the non-socialist educational systems.

A mere glance at the list of periodicals which are available to the Czechoslovak teacher /see Supplement to this paper/ will show how abundant is information supplied to the teacher by this single information flow.

It is a psychological and educational problem to secure that the teacher not only becomes familiar with the knowledge produced by educational science but that he should accept it and adopt it in confrontation with his own practice, that he should absorb it in his qualification and that on the other hand on the basis of his own experience with its practical application he should influence those who deal with the science of education.

New elements in the educational system are never a random product, everything organically grows from current educational practice. The science of education is therefore not only oriented to the research of what exists in the school but mainly to those factors and aspects which can advance practice and raise it to a higher level. Basic research in the science contributes and should contribute more effectively to a deeper cognition of the substance of education and the laws of the educational process. With this knowledge it will be possible to effectively direct and further develop this process. Such a science of education

which is not burdened by practicism and is extricated from everyday routine is capable of developing a theory which will precede practice. The teacher's role is that of the user of knowledge of the science of education and of its verifier in practice. The role of the teacher stands out as that of him who will implement the results of theoretical research fully respecting dialectical materialistic methodology. The teacher is obligated to all this by the social conditionality of education, rearing and teaching.

Dear comrades and guests, what we have indicated shows that we are facing a task that is by no means easy, i.e., to rationally exchange views of the work of the teacher with educational information as one of the forms of the pre-service and in-service education of teachers, the development of the science of education and the application of its results. It was very difficult to decide on the factual structure of the Colloquy. In the end for reasons of practical method we decided for a discussion to be held on the given subject divided into five problem areas.

In the first problem area we shall discuss the science of education as a means for perfecting the educational process and primarily as part of the pre-service and in-service education of teachers.

In the second we shall discuss the problems of the teacher as the user of educational information /problems of educational information for teachers, its specificity, sources, availability, communicability, etc./.

In the third problem area we shall speak of the attitudes of teachers to the science of education, about the struggle against empirism in educational practice, the questions of directing the educational process, etc.

In the fourth problem area we shall exchange views on the questions of the acquisition of knowledge of the science

of education in the process of the education and self-education of teachers and the possibilities and needs of the purposeful direction and control of this process.

In the fifth problem area we shall focus on the problem of the teacher as the co-author of educational knowledge the question of the generalization of the best experience of educational practice as one of the basic sources of the further development of the educational sciences.

Allow me to come to the close of my presentation.

We are living in a period in which in different countries teams of educational specialists are pondering over the prospects of education around the year 2000, speculating what the school of the future will be like. This is also true of educationalists in the socialist countries. Measures which are being implemented for the development of the educational systems are oriented to factors which will effect the development of our society at the end of this millennium. The educational systems of the socialist countries, including all teachers are preparing to cope with new tasks, are adapting to the expected changes and are developing into such form which will allow them to effectively operate as one of the principal sources of progressive education at the turn of the millennium. The basic trends have been established and principal forces have already been defined which will determine the development and productivity of these systems at the end of the century. The weight of the individual determinants will change their manifestations, some unexpected barriers may appear, current priorities may be modified, etc., the basic changes are, however, prospective and will remain preserved. These are mainly those aspects which are expressed by the permanent endeavour for the further deepening of the open character of the educational system which provide to all not only equal right to education but also the possibility of using this right and of attaining the required or intended level of education.

As concerns the teachers it appears that the basic changes which are taking place and which will prospectively take place in the educational systems are finding their concrete reflection in the social position and creative work of teachers. The set intentions cannot be achieved without content changes of profound meaning and substance, without thorough theoretical and practical preparation, without the experience and creative educational work of the teachers. In this respect the significant social function of the teacher comes to the fore and with it the indispensable nature of care of the formation of the teacher starting with the orientation of the interest of young people to the teaching profession, the correct selection of students, quality initial education at university level, to life-long education.

In this connection the importance becomes evident of the science of education and other sciences for the teacher and of the relation of the teacher to the science of education and to other sciences. Science, production and education are developing as a unified system but in historical development education has somewhat lagged behing science and production which since the mid-20th century have undergone a revolutionary transformation. We are convinced, and from this stems our optimism, that in the conditions of socialism social relations effectively help overcome this contradiction, mainly by the systematic development of the overall level of the education of the people, such as corresponds to the given epoch.

We expect that the scientific discussion which will take place in the spirit of the third part of the Final Act of the Helsinki Conference, in an atmosphere of mutual understanding, will creatively seek attitudes to numerous problems and that numerous views will become the source of suggestions for cooperation on a European scale within the UNESCO programme. In our endeavour for the development of

education, the science of education and the educational systems, we in the socialist countries are aware of the fact that this is one of the most important problem areas in the overall process of the historical competition of two contradictory world social systems, a competition in which in the field of education socialism is showing its advantages, its vitality and its right to the future.

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SUPPLEMENT B/2

KAREL TMEJ: THE EDUCATION OF TEACHERS AS THE OBJECT OF RESEARCH

In my paper I would like to characterize the current approach to the study of the problems of teacher education in our Czechoslovak Socialist Republic and to indicate certain prospective trends in this field of education. I am aware of the fact that we are concerned here with a very complex methodological area whose comprehensive and scientifically founded concept has gradually been attained by our Marxist pedagogical theory and practice. It will therefore be necessary to briefly indicate the development which has led to the current state of solution of this problem area.

It should be stated that teacher education represents a very complicated and complex educational system, both as concerns its institutional and organizational form and its pedagogical methods and content structure which moreover in the period of the construction of a socialist society, especially in the stage of the scientific and technical revolution is undergoing profound changes in its internal and external structures.

The dynamic development of teacher education within the framework of the whole educational system has developed at a faster pace and has exceeded our pedagogical theory which began to develop on the basis of Marxist-Leninist philosophy and science only at the beginning of the 1950´s. In its early years it was therefore not able to contribute more effectively to the solution of basic conceptual and methodological problems linked with teacher education. The approach to the solution of the basic problems of teacher education was therefore first based on the experience and scientific erudition of our leading educationalists, especially Otakar Chlup, the leading scholar in this field. Proceeding from the evaluation of the progressive traditions

of our educational system and teacher education, especially the application of Soviet experience, we implemented Chlup's concept of teacher education, namely the institutional solution of higher education for the teaching profession in which we were concerned for the teaching profession in which we were concerned with the establishment of a dialectical unity of content, subject education, the formative aspects of psychology, pedagogy, methodology, theoretical training and educational practice. It may be said that the approach to the solution of this problem area had more a global nature without providing a more profound coverage of the internal linkages of the individual components of teacher education. On the other hand in this initial stage research was merely oriented to the study and solution of partial questions of teacher education, especially the weakests link in this education, i.e., educational practice and the methodology and didactics of the individual subjects in teacher education. We were concerned with putting pedagogical practice and subject methods on a solid theoretical basis and thus to contribute to the overcoming practicism tendencies, towards raising the standards of teacher education at university level.

Favourable conditions for the consistent study of the problems of teacher education were only created by the establishment of institutional centres in which was concentrated the research of teacher education which involved the personnel of institutions of higher education training for the teaching profession and the personnel of other scientific institutions. This was first of all J.A. Komenský Pedagogical Institute of the Czechoslovak Academy of Sciences which focused among others on the study of the problems of teacher education as a system within the State plan and the Institute of Teacher Education of Charles University in Prague which studied this problem area within the framework

of the sector plan. In both these two research plans /of which the State plan was focused on basic research and the sector plan on applied research whose results may be applied in practice with the aim of raising standard and effectiveness/ the endeavour was evident from the very beginning to overcome by the systematic research of the teacher problem area its lack of continuity and co-ordination, to approach teacher education as a problem entity in which the following basic problems would have to be resolved: the socio-economic aspect, the cultural education aspect, the school administration aspect, the professional aspect and the application aspect.

The thus broadly and complexly mapped terrain of the problem of teacher education represented a long-term scientific and research perspective. Its implementation continued in the subsequent years and has continued to date when in the course of the further development of the theory and practice of teacher education various problem areas were emphasised and modified such as were related to the said individual aspects of teacher education.

The first results of the systematically and complexly based research founded especially on comperative studies made it possible to formulate in the late 1960´s conclusions which were both prognostic and could be used for direct application. They indicated that the dynamics of social and educational development, the complexity of the ontogenesis of the teacher´s personality and the trend to differentiation and stratification inside the teaching profession make it necessary to understand and to build up teacher education as a long-term and relatively open system operating in several stages which follow up one on another: the stage of guidance in which secondary school students decide on their future profession and which is therefore extremely important for the recruitment and selection of suitable applicants for the study of the teaching profession; the

stage of initial, pre-service, university education which provides the students with the theoretical and practical knowledge and skills for the teaching profession; the stage of further, in-service, education which is differentiated in content and function and is staged into the adaptation /induction/ stage, the requalification stage and the specialization stage. The in-service education of teachers should also fulfil the innovation function, i.e., should prepare teachers for the implementation of progressive changes in educational practice. These conclusions were important and incentful especially in two aspects: they clearly formulated teacher education as a process of life-long education and thus substantially contributed to the overcoming of views that teacher education was a completed preparatory state of university education. It also turned attention to the teacher, his personality and his pedagogical activity, so that even here they contributed to overcoming the then prevailing concept of the system of teacher education which did not take adequate account of the teacher.

In the years following 1970 the study of the problem area of teacher education was focused on the development of basic general trends and principles which previous research had shown to be prevalent in the aims, organization, means and methods of teacher education in the socialist countries and which in compliance with the overall integration trends have also influenced the development of teacher training in the Czechoslovak Socialist Republic.

Next to the ideological, moral and political orientation of teacher education the principle was developed of the scientific and professional character of teacher education which was no longer identified with the requirement for pedagogization conceived merely as the use of the specialized scientific and philosophical education of teachers. We were concerned with a new formulation of aims, content and specific

methods of professional guidance, selection and university level education of teachers which would correspond to the specific social mission of the teaching profession as a socioprofessional group, to the substantial characteristics of the work of teachers, to the trends of the development of science, technology and art which the teacher studies as his specialization, in relationship to the subject which the teacher will teach. In linkage with the principle of the professionalization of the teaching profession we also studied the changing social function and professional role of the teacher, attempts were made at finding adequate methods for recognizing the structure of the teacher's pedagogical activity. In connection with the question of pedagogical practice and specific professional attitudes and skills of the teachers we developed experimental curricula for teaching student teachers the skill of social communication. Preparatory work was carried out for developing the principle of the functional nature and innovation function of teacher education in the educational system.

A significant milestone in research work in the field of teacher education was the document on "The further development of the Czechoslovak educational system". This project characterizes the educational system of the advanced socialist society on a society-wide scale, i.e., it exceeds the framework of an educational sectorial approach to the question of education and it moreover incorporates education in the life-long process of the formation of the personality of citizens of a socialist society.

From the said important facts ensued the necessity of gradually building up a system for the education of educational personnel of all categories /i.e., not only in the educational sector/ and within the framework of their entire professional development, in close linkage with the professional function and tasks of educational personnel.

In this sense was conceived the plan of research activity within the framework of the sector task of the Ministry of Education of the Czech Socialist Republic and the Ministry of Education of the Slovak Socialist Republic as the Main Task of the Ministry No. 11: "System of life-long education of educational personnel in the advanced socialist society of the Czechoslovak Socialist Republic" mainly conducted by the Central Institute for the Education of Educational Personnel in Prague whose activity follows up on that of the former Institute of Teacher Education of Charles University.

As compared with the previous periods of work in the field of teacher education the current research problem area has expanded in the vertical direction by developing education for the whole professional career of the educational worker, i.e., including the induction and specialization stages. The development of the problem area in the horizontal direction yielded the methodology of mapping the state of educational personnel of all categories on a society-wide scale.

In the current 6th five year plan the research of teacher education whose conclusions are currently being processed has concentrated on the following problem areas representing partial tasks of the MŠ 11 research project:

On the basis of a theoretical analysis and the collection of quantitative data the researchers characterised the system of pedagogical professions, specializations and qualifications of the educational system in the advanced socialist society of the Czechoslovak Socialist Republic. They investigated how the socio-political, economic and cultural conditions of society, the process and institutional conditions of the educational system in the Czechoslovak Socialist Republic and finally the actual professional activity of educational personnel determine the need of pedagogical professions and specializations.

In the past five year period it was stated in connection with the question of the innovation function of teacher education in the educational system that even though the teachers in their initial and in-service training become acquainted with the theoretical and practical problems of the modernization of the educational process innovations at the school level are implemented only slowly and with difficulties. In the future this will require a deeper understanding of the relationship between educational and other conditions and factors of school innovations.

The problem is currently being developed in connection with the solution of the problem of the formation of the personality of the teacher and the development of his creativity. In the systems approach to the formation of the teacher's personality education is that component which influences the personality of the teacher and which is all the more significant the more closely it is linked with the work of the teacher. The project of the transformation experiment is therefore being prepared on the basis of the model of one school. The aim of this experiment is to optimize in the concrete complex of conditions prevailing in one school the unity of theory and practice in the work of educational personnel. On the basis of theoretically justified criteria the teachers who are partaking of the transformation experiment will strive for the optimization of the educational process. The school administrators of the respective school and the teachers should acquire by active education and self-education the knowledge necessary for the analysis and creation of conditions required for the development of the personality of the pupils in the educational process. This active participation of the entire staff in the acquisition of theoretical foundations and in the practical and concrete optimization of the development of the personality of the pupils allows the interiorization of the educational values

as required by the Document on the further development of the Czechoslovak educational system thus creating concrete preconditions for the development of the pedagogical creativity of the teachers.

In connection with the restructuring of teacher education in our country the respective Commissions of the Ministry of Education have developed curricula and syllabi for most study disciplines of teacher education. We are, however, currently still continuing in the study of the theoretical problems of the content of teacher education. The structure of the curricula of the study field cannot be conceived without reflecting the analysis of the respective scientific discipline in its historical and current system, ideological conditionality, methodological transformations, specialization and integration, relationship to related and marginal fields of its application in various spheres of social practice. It also appears that it is necessary to conceive all scientific disciplines and cultural fields in their entity, mutual conditionality, differentiation and integration which will in turn make it possible to clarify the position of a certain field in the socio-historical process of cognition.

In the said indicated question of the projection of the system of science into the didactic system we have arrived at stimulating conclusions related to the reflection of the current trends of development of the natural sciences and social sciences in teacher education with regard to the integration and differentiation of science disciplines and study disciplines. We are concerned with an attempt to newly structure the content of the subject matter of natural science and social science study disciplines.

We are currently also resolving the questions of institutional linkages and conditions necessary for the implementation of the whole system of the initial and in-service education

of teachers and finally of the question of school administration and the administration of the educational system in connection with the initial and further education of school administrators.

In conclusion I would like to say that the endeavour for the most complex possible coverage of the object of study of teacher education has undergone a complex development in which it was necessary to resolve a wide range of problems not only of methodological character /e.g., the implementation of the systems and inter-disciplinary approach/ but also questions of organization and personnel. Although the current state of affairs indicates that we are being more successful in understanding and solving the problems related to the system of teacher education as a problem entity with a rich internal structure and external determinants acting upon the dynamics of its transformation, the complete success of this investigation will still have to overcome certain difficulties. In the first place we are not always successful in depicting evenly and at desirable level the individual linkages in the inner structure of teacher education in such a manner as to form an innerly balanced and comprehensive system of problems. We are therefore deepening coordination in the research of the problem area of the teaching profession between the scientific institutes of the socialist countries, namely with the Academy of Pedagogical Sciences of the USSR in order to strengthen the integration trends in this field of education. Finally it should be stated that the results of the research of the teacher education problem area are not always timely and do not in all cases have such an orientation which would help much more effectively resolve current problems related to the restructuring of teacher education in compliance with the document on "The Further Development of the Czechoslovak Educational System". These shortcomings were pointed out at this year's national conference of teachers by Josef Havlín, Secretary of the

Central Committee of the Communist Party of Czechoslovakia who in his address stated that our science of education must pay its great debt to the initial and further education of teachers.

I would like to express my conviction that this Colloquy will yield valuable stimuli for improving the quality of teacher education in the life-long process and for its further development.

SUPPLEMENT B/3

V.A. SLASTENIN: EDUCATIONAL SCIENCE AND THE FORMATION OF THE FORMATION OF THE CREATIVE ATTITUDE OF THE TEACHER

The fulfilment of the programme targets of the Communist Party objectively leads to the growth of the social role of the Soviet general education school and of Soviet educational personnel. "The, are people who organically combine in themselves party allegiance and profound competence, high political awareness, a developed sense for all that is new, the ability to critically evaluate their own activity and to attentively listen to the voice of the masses."[1]/

The Communist Party and the Soviet Government which follow on and develop Leninist tradition have unprecedentally raised the social prestige and authority of the teacher. This is a teacher of the new type who is the active creative force of the advanced socialist society, who for his devoted service to our educational system and by the generosity of his heart has won general respect, who is an instructive example for children and youth of high communist ideological standards, morale and devoted attitude to work. The Soviet teacher as an active fighter on the ideological front significantly contributes to the formation of the scientific world opinion of the young generation, to the formation of their high moral and political qualities, love for work and the feeling of historical responsibility for the fate of socialism, for the development and security of their homeland.

Education in the broad sense of the word is the reproduction of social experience in the individual, it is the transmission of human culture into the individual form of existence such as is adequate to the social nature of the given society. The subject of education which is a social function is society;

1/ L.I. Brezhnev. Historical milestone on the road to communism. Pravda, 1977. 23rd November.

its object is the young generation. The reproduction of the social values acquired by society is practically implemented in pedagogical activity which we may define as the control of the process of the individual acquisition of social experience. "In order to be able to control", wrote V.I. Lenin, "we have to be competent for such activity, we have to be fully and accurately acquainted with the technology of the given production at its current level, we have to have certain scientific education".[1/]

In the set of means which secure the professional competence of the teacher the primary role is assigned to the science of education which equips the teacher with the methodology of pedagogical activity.

Pedagogical activity is directly based on a certain set of knowledge on how to organize the future, as yet not implemented, process of instruction and education. This knowledge is then in a certain manner inter-related with other knowledge - on the course of the pedagogical process which has already been actually implemented or which is being implemented. Knowledge on the substance of the current process of education and instruction is acquired by pedagogy through the implementation of its descriptive, explanatory, scientific and theoretical functions. Pedagogical activity proper, pedagogical practice is the object of investigation for the education scientist.

If the aim is gaining knowledge on how the process of education and instruction is to be designed and implemented pedagogy acts in its second function, i.e., in the function of technical design; in this case the educationalist views pedagogical practice as the object of the project design.

When we study the dynamics of the whole system of the generation of educational knowledge and confront it with pedagogical practice we see that this activity is the link which closes the whole chain because it implements both functions of the science of education.

1/ V.I. Lenin Collected works, vol. 40, p 215 /Soviet edition/.

The whole project of pedagogical activity which so far exists only in the minds of the designers as an ideal results from a whole set of scientific research. The teacher receives this project in form of syllabi, curricula, text-books and various reccommendations. The project is gradually implemented and a new pedagogical reality arising in compliance with the project again becomes the object of research. We thus obtain a closed cycle: "science - practice - science". Scientific knowledge which has been generated in this process on the one hand serves to clarify the events which are taking place in the pedagogical process, i.e., to reveal its substance, on the other hand it determines certain pedagogical procedures.

The activity of the teacher is in the focus of all threads running from the science of education, it is here that all knowledge which is acquired by this science is materialized. The outstanding Soviet educationalist V.A. Sukhomlinskiy said: "The scientist's discovery animated in human inter-relations, in the live upsurge of ideas and emotions, arises in front of the teacher as a complex task which may be resolved in several ways; the creative work of the teacher consists in the choice of method, the transformation of theoretical truths into live human thoughts and emotions." 1/

Currently the teacher cannot found his work on intuition alone, on the arguments of common sense. Social demand is placed on his activity through the results of pedagogical research. Materials in which is "objectified" the idea of what should be tought and how young people should be educated are the final product of the science of education, its applied result. At the same time they are in their sum the project of the specific "scenario" which has been drawn up on the basis of much knowledge and which is designed for the fulfilment of socially significant objectives.

1/ V.A. Sukhomlinskiy. Discussion with a young school principal. Moscow, 1973, p. 10.

Teachers who in their practical work turn to the science of education will encounter a wide range of difficulties. In the first place scientific theory is the knowledge of general laws, principles and rules while practice is always concrete and related to the existing situation; the application of theory to practice always requires the teacher to have certain habits of creative thinking which the teacher frequently does not have. Second: educational work is a compact process whose mechanism is a synthesis of knowledge /philosophy, pedagogy, psychology, methodology, etc./ while the teacher's knowledge is often deposited "in pigeonholes", i.e., it is not trained to such extent as is necessary for controlling the process of the formation of the personality. This results in that the teacher will often acquire his pedagogical skills not under the influence of theory but independently of it, on the basis of routine, pre-scientific, practical ideas of pedagogical work.

Pedagogy has for centuries developed prevalently as a regulatory science and was the sum of more or less useful practical recommendations and regulations for education and instruction. Some of them were related to elementary methods of work and do not require theoretical justification, other ensue from the laws of the pedagogical process and are materialized with the development of theory and practice. Regulations, regardless of their character - traditional and instructive, relative and unconditional, empirical and rational - are the applied part of pedagogy whose acquisition provides a certain pedagogical "technical minimum". Not every step in pedagogical activity can be expected to be creative, unique and new. It is a well-known fact that in some cases circumstances will be repeated while in other cases we ourselves deliberately create them. Therefore in each creative activity there naturally exist different rules /regulations, standards, recommendations, instructions/ which have a relative and conditional nature.

Regulations have a positive and negative influence on practice. The pace of their acquisition, the ease of their practical application, the stability of their application - all these are properties which are valuable for every beginning teacher. However, the damage which they cause may be equally great. Regulating, rigidity, stereotype and formalism in work, rancour in pedagogical theory, dogmatism in pedagogical thinking, orientation ot methodical instructions from above, lack of understanding for other people's positive experience - and this is by far not the complete enumeration of the short-comings resulting from the acquisition of regulations without the knowledge of the dialectical character of the educational process.

If the teacher in his work is guided by the results of the science of education he is usually a good teacher but not a master. If the teacher in all difficult cases when science is silent finds pedagogically justified solutions based on the results of educational theory then he has become a master. The teacher will acquire this mastery by being able to derive knowledge from life, by being able to think and act pedagogically.

The art of pedagogical thinking and acting means:

- to be able to independently analyse pedagogical phenomena, i.e., to be able to analyse their components /conditions, causes, motives, stimuli, means, forms of manifestation, etc./,
- to be able to understand each component in connection with the entity and in interaction with the decisive components, to seek in the theory of instruction and education ideas, conclusiones and laws which are adequate to the logic of the given phenomenon;
- to be able to correctly diagnose a certain phenomenon, i.e., to determine into which category of psychological and pedagogical phenomena the phenomenon as an entity belongs;
- to be able to pinpoint the basic pedagogical task /problem/ and the methods of its optimal solution.

The enormous growth of science has not only conditioned the development of its theoretical apparatus. It has also borne its mark on the forms and style of current thinking; one of its features is the endeavour for the strict reliability of facts. It is absolutely evident that the formation of the creative professional thinking of the teacher is impossible without regard to the analysis of social and pedagogical practice.

In order to secure the acquisition of this or that pedagogical law, this or that theory it is not necessary to overburden the memory of student teachers or serving teachers with the knowledge of a large number of facts. It is possible to restrict oneself to some of them but it will be necessary to study not their individual specificities but the substance of which they are the manifestation. On their example it is possible to show the method which makes it possible to construct both these phenomena and any others which are part of the given system. This fact will favour the strengthening of the role and significance of theoretical generalizations in the system of the further education of teachers. The infinite wealth of the unique can only be comprehended through a knowledge of the general and the laws of the subject in hand. Theoretical generalizations provide the principles for the solution of not only those tasks on whose basis they have been expressed but also of all others which belong to the said area and which appear in practical educational activity.

The term "fact" in its usual usage means something which has taken place, which has existed or exists. Theory may be unscientific, may reflect reality in a deformed manner but as long as it fulfils certain logical conditions and regulations of the construction it is still the theory. Facts are, however, such an element of knowledge which has the right to its name only on condition that they are strictly and accurately in accordance with reality and with practice. In this sense it

is necessary to understand the postulate expressed by V.I. Lenin: "Practice is above /theoretical/ knowledge because it not only has the advantage of generality but also of immediate reality." 1/ Insofar as the generality of practice is depicted in theoretical knowledge which is the result, conclusion and generalization of "one thousand million times repeated actual relations" /Lenin/ then "immediate reality" is fixed in facts which precede theoretical cognition.

Theory is such a logical organization of knowledge which is no longer subordinated to the fact but which controls it; in which it is possible to clarify all facts related to the given entity and to derive them from one associating or main principle Laws revealed by science are manifested through facts. The general does not exist otherwise than in the special or through the special. The fact is a form of existence and of the immediate manifestation of the law.

The development of the science of education, its wealth and complexity gives birth to an enormous variety of pedagogical facts. As concerns the forms of description pedagogical facts are classified into qualitative facts, qualitative and quantitative facts, simple and complex facts, events and situation facts /processes/ and the facts of nonexistence. As concerns the degree of generalization facts are classified into individual and mass facts, unique and general /facts - summaries/. According to the periodicity of involved relationships general facts may be manifest as dynamic or static. The latter reflect the general sum, the average result, the trend which is not identical with each case, which is part of a large set. As to their relation to the law certain pedagogical facts are typical, substantial /the law is expressed very strongly, it is manifest explicitly and evidently - typical facts/, other facts express the laws only distantly and indirectly /atypical facts/ and some are

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V.I. Lenin Collected works, vol. 29, p. 195 /Soviet edition/.

exceptions from the given law /negative facts/. Negative facts help determine the limits of the given law, the conditions under which the given law applies; they are the stimulus for developing new approaches, new theories, a new and more profound scientific clarification of pedagogical phenomena.

The idea expressed by K.D. Uskinskiy applies that "a greater or smaller number of educational facts which the educator experiences will remain mere facts, do not provide him with an experience. They have to act on the educator's mind, to become classified in him by their characteristic properties, to become generalized, to become an idea; then this idea and not the actual fact becomes the rule for the educator's educational activity ... The linkage of facts in their ideal form, the ideal aspect of practice will become theory in such a practical matter as is education". 1/

It is very important to distinguish the facts from views of the fact. No matter how paradoxically this may sound it is easier to separate theory from fact than fact from theory; it is easier to separate the subjective in the content of the theory than in the fact. Every man convinced that he is presenting facts and nothing but the facts will certainly be introducing something of himself into the explanation.

The accumulation of pedagogical facts is often identified with the accumulation of various procedures which have been proven in the work of individual teachers. However, the "pedagogical system" composed of these isolated achievements and discoveries, which often do not have the character of laws and are determined by the specific concrete situation and specificities of the teacher's personality is basically a pedagogical conglomerate which does not reveal any substantial relationships between the existing substantial phenomena in the educational process and contains but an artificial linkage of individual incongruous cases of pedagogical practice.

1/ K.D. Uskinskiy. Collected works, vol. 2, pp 18-19 /Soviet edition/.

The reality of facts becomes a scientific fact only if it is presented and interpreted not subjectively "by sight", but from the point of view of a certain theory. To a certain extent the remark made by Claude Bernard applies that: "The fact in itself is nothing; it bears significance only thanks to the idea with which it is linked or the proof which it presents." Only the theoretical explanation of facts will make it possible to do away with ways of thinking which are habitually transmitted into scientific pedagogy from everyday practice and which create the illusion of obviousness harmful for pedagogical cognition.

Pedagogical facts must be sought, classified and selected; they must also be subjected to theoretical analysis which studies dialectical inter-relations between the unique and the general, the random and the necessary, the phenomenon and the substance.

The theoretical analysis of pedagogical facts comprises: the identification of the fact or phenomenon, its separation from other facts and phenomena; the determination of the set of the elements of the given fact or phenomenon; the revelation of the content of each element of the given structure; the determination of the origin, and formation of each element of the structure; the determination of the role of each element; the presentation of the proof of the linkage of the given element with the other elements of the structure; the penetration into the process of the formation of the phenomenon as an entity; the determination of the place of the integral phenomenon in the characteristics of the educational process or in the formation of the personality.

In order to become an active creator and transformer the educator should not only simply imitate the work of good teachers but needs to recognize the substance of the educational process, to find its deep foundations. The science of education

frees the individual teacher from the necessity of carrying out something where he cannot succeed, i.e., to repeat all experience of the educational and cognitive activity of mankind. However, the results of the science of education only indicate the general and statistically most frequent road taken to reach the required goals. It is the matter of the teacher to use these results in concrete unique pedagogical situations, to be the creator of the pedagogical process and through this process to be the creator of the spiritual world of the pupils. As was correctly depicted by the significant Soviet educational scientist P.P. Blonskiy: "The genuine teacher is not an encyclopaedia. He is Socrates."

Thank.

SUPPLEMENT D/1

FINAL RECOMMENDATION

The participants in the international colloquy: "The Teacher and the Science of Education" held in Prague, Czechoslovak Socialist Republic, from October 22-26, 1979 with the participation of specialists from 10 european countries and a representative of IBE/Unesco, Geneva, discussed important aspects of the further education of teachers concentrating mainly on the following five problem areas:

1. The science of education as a means of raising the effectiveness of the educational process and as part of the initial and further education of teachers;

2. The teachers as the user of the scientific educational information. Scientific information for the teacher, its specific character, sources, availability, communicability, etc.;

3. The teacher's attitude towards educational sciences. The fight against empirism in teaching practice. Scientific control of instruction.

4. Acquiring the acquisition of knowledge of the science of education in the process of the education and self-education of teachers.

5. The teacher as the co-autnor of scientific educational knowledge.

The participants in the Colloquy were informed by leading representatives of Czechoslovak educational bodies of experience gained with the development of the Czechoslovak educational system, namely with the restructuring of teacher education.

Following up on previous international events and documents, namely the Recommendations of the 36th and 37th

international conferences on education held in Geneva in 1970 and 1979, the international conference of educationalists of the socialist countries in Warsaw in 1977 and the national teachers' conferences held in the European socialist countries in the years 1978 - 1979 and last but not least on the round-table discussion on education up to the year 2000 organized by the European Information Centre of Charles University for the Further Education of Teachers and held in Prague in May 1979 with the participation of representatives of Unesco the Colloquy placed emphasis on the exchange of view on handling educational information as a form of the pre-service and in-service education of teachers and on assessing the possibilities of European cooperation in this field.

The participants in the Colloquy agreed that in the current period of the relentless endeavour for the implementation of the conclusions of the Helsinki agreement on security and cooperation in Europe /1975/ and the new peace initiatives of L. Brezhnev /Berlin 1979/ favourable conditions had been created in Europe for the further effective exchangr of educational experience among experts from the individual countries of Europe. These conditions make it possible to improve the organization, administration, planning, content, methods anf forms of the further education of teachers, fully respecting the specificities of the social and educational systems of the individual countries concerned. The participants also arrived at the conclusion that the Colloquy had contributed to mutual understanding through the exchange of views, experience, publications and specialist information.

In the course of the discussion the participants arrived at the conclusion that changes in education which are currently taking place throughout the world would not materialize unless the teacher is won over to accept them, for his own. They also agreed that none of these changes should

be implemented only on the basis of the empirical and intuitive knowledge of educational reality. Therefore, they concluded that it was necessary that the scientific study of these changes, their sources, trends, horizons, barriers sicuek and human consequences must go hand in hand with changes in the educational system or must anticipate such changes. This scientific knowledge must be incorporated in the professional stock of knowledge and skills possessed by the teacher.

The discussion showed that all these views are not only proclaimed in the countries concerned but that a wide range of concrete and very interesting models and strategies had been developed for the speedy and effective implementation of the achievements of modern educational and psychological science into classroom practice. It would be extremely useful if these models were compared and made available to the broad international educational public.

The discussion on the teacher as the co-author of educational information and the generalization of the best educational experience to the level of educational fact also yielded very interesting conclusions. A number of highly interesting models were demonstrated in the course of the discussion on orienting the teacher to creative work. It was agreed that the international educational public would appropriately appreciate the individual components of the models as well as the models as such.

With regard to the said fact the participants in the Colloquy "The Teacher and the Science of Education" agreed

1. to consider the teacher's independent work with educational information to be an important and very effective form of his life-long education.

2. to recommend to the Unesco Secretariat and to the respective international and national organizations dealing with the pre-service and in-service education of teachers to devote

adequate attention to this question, to endorse the exchange of knowledge and experience in this field between the individual European countries and institutions using the existing network of educational and research institutions and information services. In this respect the following priorities have been agreed upon for the following five year period:

2.1. bilateral and multilateral cooperation in research and information activities;

2.2. cooperation of experts and their exchange under the respective cultural agreements;

2.3. the further improvement of methods and forms of the teachers' independent work with educational information and the orientation of teachers to creative scientific work;

2.4. the development of activities aimed at mutually advantageous international cooperation fully respecting the specificities of the educational and social systems of the individual European countries;

3. to recommend that the identification be continued of specialists and organizations which specialize in or marginally study the problems of the prompt transfer of educational knowledge and the knowledge of marginal sciences into educational practice at scientific level. This identification could be based on the list of brief characteristics of the specialist activity conducted and publications put out by the participants in this Colloquy which was prepared for the Colloquy by the European Information Centre of Charles University for the Further Education of Teachers on the basis of an international questionnaire;

4. The participants in the Colloquy have recommended that

   a/ a case-study be made related to the best strategies of introducing the results of educational and psychological research and other scientific knowledge into educational practice with the aim of raising the effectiveness thereof;

   b/ an international comparative study be drawn up and published dealing with the subject: "The Teacher in Research" describing the most effective forms of involving teachers and students of the teaching profession in educational research;

   c/ an international survey be conducted to find which sources of educational information are most frequently required and used by teachers;

   d/ the Czechoslovak Socialist Republic, the USSR, the Hungarian People's Republic, the GDR and the Bulgarian People's Republic should cooperate in drawing up and publishing a monograph on the creative activity of teachers and its deliberate formation;

   e/ an international collection of reprints should be prepared for publication and published dealing with the subject: "The Progress of Current Pedagogy and Educational Psychology" such as would be suitable for the further education of teachers;

5. The participants in the Colloquy recommend to the European Information Centre of Charles University for Further Education of Teachers that an analogical meeting of specialists be convened within five years at the latest, to discuss, e.g., the subject of: "The Development of Teachers' Needs and Interest in Work with Educational Information."

6. The participants in the Colloquy request the organizers of the Colloquy to process the Final Report and to distribute it in Czech, Russian and English to all

participants, observers, to the Unesco Secretariat and to other Unesco institutions. They also request the organizers to consider the possibility of publishing the Colloquy materials in form of a concise proceedings which would in abbreviated form inform of the deliberations of the Colloquy and would contain the most important ideas presented in the keynote papers, the response papers and in the communications. Such Proceedings would be distributed in cooperation with Unesco in the Czech, Russian and English versions to all interested specialists and organizations. The participants also turn to the UNESCO requesting it to devote adequate attention to the problems of the pre-service and in-service education of teachers by independent work with educational information also in its future programmes, to endorse further analogical meetings of specialists on the speedy transfer of educational knowledge into educational practice and in the development of programmes in the area to take into consideration the final recommendations of the Colloquy as well as recommendations presented within the discussions on the individual problem areas;

7. The participants in the Colloquy thank the organizers for having prepared and organized the Colloquy: "The Teacher and the Science of Education", they thank all institutions, bodies and individuals under whose auspices the Colloquy was held. They thank all those who presented keynote and response papers, who presented their communications and took part in the discussion, the rapporteurs and members of working groups for their active participation and for the singular attention which they devoted to all sessions and discussions of the Colloquy.

THE TEACHER AND THE SCIENCE OF EDUCATION
Proceedings of International Colloquy

Prague, October 22 - 29, 1979

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Recommended for Publication by Professor PhDr. Miroslav Kořínek and Professor PhDr. Antonín M. Dostál

Published by Charles University. Prague. 1983

Vice-Rector-Editor Professor RNDr. Václav Prosser, CSc.
Responsible Editor Zdeněk Pernica
Head of Publishing Department PhDr. Zdeňka Vávrová-Rejšková

[D] Cover by Jiří Kreuziger

AA 10,02 VA 10,31 First Edition 260 copies

60-045-83 02/51 Kčs 18,50

Printed by Tiskařské závody, Praha, závod Příbram

60-045-83
02/51
Kčs 18,50